Encyclopedia of

INDO-EUROPEAN CULTURE

Editors

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and

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... Learned philologists, who chase
A panting syllable through time and space.
Start it at home, and hunt it in the dark,
To Gaul, to Greece, and into Noah's Ark
William Cowper, *Retirement* (1782)

EDITORS' NOTE

There are two types of encyclopedia or, at least, two purposes for their existence. On the one hand, they may be designed to represent a summary "last word" of knowledge of a particular subject, i.e., they may draw a line under the various topics. The second purpose is to arrange the data in a manner that is intended to permit additional insights, i.e., the organization is designed to serve as a platform for further research as well as to inform. The purpose of this *Encyclopedia of Indo-European Culture* has been directed as much at the second goal as the first. Since it is an encyclopedia, this work is arranged conceptually rather than by form (the latter shape of course being appropriate to an etymological dictionary such as Julius Pokorny's *Indogermanisches Etymologisches Wörterbuch*). Similar to this work in that they are conceptually arranged are Carl Darling Buck's *A Dictionary of Selected Synonyms in the Principal Indo-European Languages* (1949), Xavier Delamarre's *Le vocabulaire indo-européen: lexique etymologique thematique* (1991) and Tomas Gamkrelidze and Vyacheslav Ivanov's *Indo-European and the Indo-Europeans* (1995), and the still useful *Reallexikon der Indogermanischen Altertumskunde* by Otto Schrader and Alfons Nehring (1917–1923). In terms of exploring the full semantic range of Indo-European, it was intended that this work be fuller and more inclusive than any previous work. In this way, even if it often faltered in establishing how Proto-Indo-European might have filled a particular semantic field, it would at least help establish a research agenda for future work. The senior editor began with this fairly clear idea of what he had in mind but by the end of 1993 it had become apparent that the work would never be completed unless he had the assistance of someone with far greater linguistic competence than he himself had and so he invited one of the original contributors, Douglas Adams, to join him as editor so as to insure the completion of those entries which were not being accomplished.

The senior editor initially arranged that each contributor handle one or two semantic categories, e.g., trees, mammals, for which he or she was provided a series of potential roots and cognates based on the various Indo-European handbooks. Upon receipt of a number of entries it became clear that there were overlaps as well as gaps which required the joining of two or more contributors' work in a single entry. In some cases contributors felt strongly enough about either the work of others or editorial amendments that they wanted to insure that their own work was either disassociated from that of others or that their name was not included after a particular entry although they had contributed to it. The editors have attempted to comply with the contributors' wishes in all these cases. It should be added that often when the editors' initials (D.Q.A., J.P.M.) are to be found appended to those of the original contributor, their insertion was not intended by the editors as an attempt to steal another's glory but rather to indicate a more appropriate target for a reviewer's criticism.

Begun in 1990 for Garland Publishing, the encyclopedia was in page proof by April 1997. It was at this time that Fitzroy Dearborn took over the publication, rescuing both the encyclopedia and the sanity of the two editors.

It should be noted that no one knows better than the editors that this could be a better book than it is. New ideas are constantly emerging that should be included, old ideas could be better integrated and discussed, there is a wealth of cogent information that could be added and connections could be better pointed out. No doubt, despite our vigilance, some outright howlers

remain. Nevertheless, like all large, multi-authored projects, this one has long outlived the time scheduled for its preparation and it is time to send it out into the world, admittedly a little startled and not quite properly dressed for the occasion. As George Philip Krapp was wont to say on similar occasions: one must leave something for the reviewers to say. It is our hope that users will be indulgent with its imperfections and suggest improvements for a (still hypothetical) second edition.

In the final preparation of the work a number of colleagues have commented on some of the entries, assisted in verifying the existence of some of the more difficult to find lexical items, or provided invaluable bibliographic assistance. For their help, we would like to thank the following: Rhian Andrews, Vaclav Blažek, Allan Bomhard, John Day, Xavier Delamarre, Anthony Harding, Petra Sabine Hellmuth, and Asko Parpola. Thanks also to a much badgered John Roblin of Garland who had to deal with a continuous demand to create new font characters; also thanks to Evelyn Kinloch of December Publications, Belfast, for the difficult job of page origination, and Roda Morrison of Fitzroy Dearborn who saw the book through to completion. A very special thanks goes to Gillian Gilmour who drew or redrew all of the illustrations in the *Encyclopedia* and to Maura Pringle of the Cartographical Laboratory, School of Geosciences, Queen's University Belfast, for all of the maps and line diagrams. And, finally, the senior editor would like to thank his wife Eimear and daughter Deirdre who helped enormously in the preparation of the indices to the *Encyclopedia*.

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HOW TO USE THIS ENCYCLOPEDIA

The *Encyclopedia of Indo-European Culture* is alphabetically arranged and provides coverage of the major Indo-European language stocks and their origins, the conceptual range of the reconstructed Proto-Indo-European language, selected archaeological cultures with some relationship to the origin and dispersal of Indo-European groups, and some of the major issues of Indo-European cultural studies.

Finding an Entry

Broadly speaking there are two sorts of articles in the *Encyclopedia*: those that do not have as their goal the reconstruction of specific Proto-Indo-European lexical items, i.e., those that are devoted to archaeological, cultural topics, or the various Indo-European languages and stocks, and those that are devoted to the reconstruction of Proto-Indo-European words. The former group we think to be relatively straightforward but the latter group may not be, and thus may be worth a few words of orientation.

Attributing a proto-meaning to a series of cognate words is frequently a hazardous business where a half-dozen Indo-European stocks, for example, may yield related words that mean 'bright', 'shining', 'silver', 'white', etc., and the linguist must decide which if any of these definitions was the "original" meaning. This problem is compounded when the editors of this *Encyclopedia* are required to arrange a series of conceptually related roots under appropriate headings. To insure that the reader can find what he or she is seeking (or abandon hope that the semantic sphere can be reconstructed for Proto-Indo-European), the following guidelines may be useful:
a) a list of all entries arranged in alphabetical order is provided in the "List of Entries" section; b) as various headwords may be "buried" under the name of a more general entry, e.g., "comb" is to be found under "Textile Preparation", the reader is also offered a thematic list of all individual reconstructed head-forms (with cross-references to their entry titles); c) if the term is still not found, the reader is directed to the "General Index" at the end of the book; and d) if the reader still can't find the entry required but knows the word for the concept in any of the major Indo-European languages, then reference may be made to the "Language Index" at the end of the book.

Lexical Entries

The basic lexical-semantic entry normally consists of five parts: the reconstructed form, a gloss to the word, sources indicated in brackets, the IE language data, and a discussion.

a) The reconstructed form (in bold) presents as much evidence as we have about the actual form of the PIE word. Sometimes we are able to reconstruct only a root but, where possible, we give a complete word, the nominative singular in the case of a noun or adjective (and in some cases the genitive singular, or even the genitive and accusative singulars so as to show more fully complicated morphological alternations) or the third person present in the case of a verb.

b) The gloss is usually short, though often some attempt is made to distinguish the meaning of the particular entry from other similar ones. Often further semantic clues are brought out in the discussion.

c) The source or sources (within square brackets) are our attempt to direct the reader to certain larger and more general discussions of the word or root in question. Typically included are references to Julius Pokorny's *Indogermanisches Etymologisches Worterbuch* (*IEW*), the standard, though somewhat dated, etymological compendium of Indo-European languages; to Calvert Watkins' *The American Heritage Dictionary of Indo-European Roots* (Wat), an etymological overview of Proto-Indo-European from the point of view of English; to Tomas Gamkrelidze and Vyacheslav Ivanov's *Indo-European and the Indo-Europeans* (GI), an encyclopedic, though somewhat idiosyncratic, review of Proto-Indo-European language and culture; and to Carl Darling Buck's *A Dictionary of Selected Synonyms in the Principal Indo-European Languages* (Buck), a dictionary organized under semantic rather than root headings which illustrate how various Indo-European languages have treated certain concepts. Where words do not appear in one or the other of these works, references to discussions in standard

ABBREVIATIONS AND TECHNICAL TERMINOLOGY

a-vocalism = having the vowel **-a-* in PIE, rather than the more usual **-e-* or **-o-*.

Abkhaz = language of the (non-IE) Northwest Caucasian group of languages.

abl. = ablative, the nominal case expressing origin or source of movement (i.e., more or less equivalent to English prepositional phrases with *from*), e.g., OInd *viṭ* 'settlement', abl. *viśás* 'from the settlement'.

ablaut = alternation of vowels within the paradigm of a word, e.g., as in English *sing, sang, sung.* PIE distinguished a full grade with *e* or *o*, a zero-grade (the absence of a vowel), and a lengthened grade with *ē* or *ō*.

acc. = accusative case, the IE case marking the direct object of a verb, e.g., "he saw *me*", or the object of certain prepositions, particularly those involving motion toward some goal, e.g., "he went *to the field*" and Lat *domum venit* 'he/she goes home'.

acrostatic = a PIE inflectional type where the accent is fixed on the root syllable, e.g., **bhréh$_a$tēr* 'brother' (nominative) and **bhréh$_a$tr̥s* 'brother's' (genitive).

active = in transitive verbs where the subject is the agent and the direct object the undergoer of the activity, e.g., "the boy *hit* the ball". Opposed to the passive where subject and direct object have the opposite semantic specifications, e.g., "the ball *was hit* by the boy".

adj. = adjective, a word modifying a noun, e.g., "the *green* grass and the *colorful* flowers".

adstrate = (elements of) a language (presumed) responsible for change in a neighboring language when they are in contact with one another.

adv. = adverb, a word modifying a verb or an adjective, e.g., "they went *carefully*" or "the *exceedingly* colorful flowers".

Aeolic = a Greek dialect group that spread to the western border of Anatolia, e.g., Lesbos, before *c* 1000 BC; it is one of the constituent elements of the Homeric dialect. It consists of Boeotian, Thessalian and Lesbian.

Æsir = major division of Old Norse gods led by Óðinn who are contrasted with the Vanir. In the Dumezilian model of comparative mythology, they are identified with the First (priest) and Second (warrior) aspects of society.

affective = meaning that arouses emotional as well as rational response. The emotional response can either be negative, as in the famous "four-letter words" of contemporary English, or it can be positive, as with endearments. The emotional response may interfere with normal rules of sound change.

affricate = a consonant that begins as a stop but ends as a fricative, e.g., the initial and final consonants of NE *church* or *judge*, or the initial consonant of NHG *zeit* 'time'.

Afro-Asiatic = formerly known as Hamito-Semitic, this is the language family of southwest Asia and northern Africa which comprised Ancient Egyptian (and its descendant Coptic), the Semitic languages (Hebrew, Arabic, Akkadian, Assyrian, etc.), Berber, Chadic (in Chad, Nigeria, Cameroon, etc.) and the Cushitic languages of the Sudan, Ethiopia, Somalia and Tanzania.

Agul = Northeast Caucasian (non-IE) language of the Lezgian subgroup.

Akkadian = ancient Afro-Asiatic, more specifically East Semitic language, written in the cuneiform script, that was spoken from the Mediterranean to the Persian Gulf. It flourished in the third millennium BC but by the second it was being replaced by constituent dialects of Assyrian and Babylonian.

Akkadogram = (in a Hittite text) an Akkadian word written instead of the corresponding Hittite word, presumably intended to be pronounced as Hittite (see also Sumerogram). Cf. the similar situation in NE *lb* (< Lat *libra*) which is read as 'pound'.

Alb = Albanian, language of Albania, attested from the sixteenth century in two main dialects, Gheg and Tosk.

allophone = a predictable variant of a phoneme, e.g., English *k* is predictably aspirated in word initial position (as in *kit*) but unaspirated when preceded by an *s* (as in *skit*), or PIE **s* which was voiced before a voiced stop but voiceless elsewhere.

Altaic = a possible (non-IE) language family composed of the Turkic, Mongolian, and Tungusic language groups.

alveolars = sounds made by the tip of the tongue touching, or almost touching, the alveolar ridge (the bony ridge behind the upper teeth), e.g., NE *t, d, n*, and *z*.

analogical = creation of a new word or form by imitation of existing words or forms, e.g., in English *sing: sung* leads to *bring: brung*.

Ancient Chinese = the (Middle) Chinese language attested during the period from *c* 200 BC to *c* 900 AD.

anthroponym = name of a person, e.g., Caesar.

aor. = aorist, either a (P)IE tense which designated a past happening as a single event, over and done with, e.g., "he *won* the race" (as opposed to the *imperfect* which denotes a past event as an on-going event, e.g., "he *was winning* the race when he stumbled and fell"), or, more generally, a (P)IE aspect that expresses momentary activity not necessarily in the past, e.g., the aorist subjunctive or aorist optative in Greek.

apocopated = having lost what had been the last sound of a word, e.g., modern Spanish *pan* 'bread' is apocopated when compared to its early Spanish ancestor, *pane*.

appellative = descriptive name or designation, e.g., the *all-knowing* gods.

approximant = a frictionless continuant sound, e.g., English *y, w, r, l*.

Arabic = Afro-Asiatic, specifically West Semitic (non-IE) language.

Arcadian = a dialect of classical Greece spoken in Arcadia, or the north central portion of the Peloponnesus, and most closely related to Cypriot, spoken on Cyprus, and the by then extinct Mycenaean spoken, and written, several centuries earlier throughout the south of the Peloponnesus and on Crete.

Arm = Armenian, the language of the Armenians, of eastern Anatolia and the south Caucasus, attested from about the fifth century AD to the present.

Ashkun = Nūristāni language of Nuristan province of Afghanistan.

Asianic = designating a hypothetical language or languages of Asia Minor or the Levant, elements of which are believed traceable through the words of various east Mediterranean languages otherwise without etymologies.

aspectual = pertaining to aspect, or the manner in which the speaker views the action of a verb (as on-going, momentary, having continuing relevance, etc.), e.g., "he *eats* meat" (i.e., is not a vegetarian) versus "he *eats up* the meat" (i.e., a single act of eating).

aspiration = strong, breathy, release of a consonant, e.g., the initial *p* in English *pit* as opposed to the unaspirated variety when the *p* is preceded by *s* as in *spit*.

assibilation = the change of a stop consonant such as *t* or *k* into an *s*-like sound or one that ends in a *s*-like sound, e.g., *t* > *ts*.

assimilation = the change of one sound in a word so as to make it more like another sound in the same word, e.g., *in-* + *possible* > *impossible* where the *n* shifts its place of articulation to become more like the following *p*.

Assyrian = pertaining to ancient Assyria or its (non-IE) language (a variety of Akkadian).

atelic = refers to events with no built-in goal or endpoint, e.g., "they *rode* horses", "the birds *were flying around*", as opposed to telic events where there is a natural goal or endpoint to the activity, e.g., "he *built* a house".

athematic = nouns and verbs in PIE, and the various daughter stocks, whose stem does not end in *-e/o-*, e.g., **g^{w}ōu-s* 'cow' as opposed to the thematic **taur-o-s* 'aurochs; bull'.

Attic = the variety of Greek spoken in classical Athens and the surrounding Attica. It was the dominant literary variety of Greek in classical times and became, somewhat influenced by the neighboring Ionic, the ancestor of almost all post-classical varieties of Greek.

Attic-Ionic = a closely related group of classical Greek dialects including the Attic of Athens and the rest of Attica and the various Ionic dialects of the Cyclades and the Greek-speaking coastal strip of Anatolia.

augment = a prefix (**h₁e-*) in certain varieties of late PIE and their descendants (Greek, Armenian, Indo-Iranian, Phrygian) that indicated past time in verbs, e.g., OInd *bhárati* 'he carries' but *á-bharat* 'he carried'.

Av = Avestan, the Iranian language of the ancient and sacred scripture of Zoroastrianism, traditionally dated *c* 600–400 BC, but probably earlier.

backformation = word derivation by subtraction, e.g., English *orientation* (itself regularly derived from *orient*) > *orientate* since *orientation* would be a regular derivative of *orientate*, if the latter had existed.

Bailey = H. W. Bailey (1979) *Dictionary of Khotan Saka*. Cambridge, Cambridge University Press.

Bajui = a dialect of Shughni, an East Iranian language.

Bakhtiari = a Southwest Iranian language spoken in the province of Luristan.

Balkan-Danubian complex = hypothetical grouping of various cultures of Balkans and central Europe (e.g., Baden, Ezero, Usatovo) that date to *c* 3000 BC on the basis of shared architectural, ceramic and metallurgical forms. In the "Kurgan theory", the similarities are attributed to a common superstrate of steppe intruders.

Balto-Slavic = a possible IE superstock composed of Baltic and Slavic.

Baluchi = an Iranian language belonging linguistically to the Northwestern Iranian languages and spoken in southwestern Pakistan and adjacent parts of Iran and Afghanistan.

barytone = a word with non-final accent, e.g., Greek *τόμος* 'slice' (< *'thing cut off'), as opposed to oxytone, a word with final accent, e.g., Greek *τομός* 'cutting, sharp'.

Basque = non-Indo-European language of northern Spain and southern France, usually regarded as a residual language of western Europe that has survived the incursions of the Indo-Europeans.

Berber = major subdivision of the Afro-Asiatic language phylum spoken in North Africa.

bilabial = a sound formed with both lips, e.g., NE *p* and *b*.

BK = citations of proposed underlying Nostratic forms for various Indo-European words which are to be found in Bomhard, A., and J. C. Kerns (1994) *The Nostratic Macrofamily: A Study in Distant Linguistic Relationship*. New York, Mouton de Gruyter, and augmented with entries from Bomhard, A. (1996) *Indo-European and the Nostratic Hypothesis*. Charleston, Signum.

Blažek = citations from Blažek, V. (1992) *Historická Analýza Indoevropeské Zoologické Terminologie*. Brno, Filosofická fakulta Masarykovy univerzity v Brně.

BMAC = Bactrian-Margiana Archaeological Complex, major archaeological culture of Central Asia *c* 2200–1700 BC. It has been identified as a likely candidate for early Indo-Iranians prior to their expansion southwards into Iran and northern India.

Boeotian = Greek dialect belonging to the Aeolic group that was spoken in Boeotia.

Bret = Breton, a Celtic language of Brittany, primarily derived from the language of early British immigrants of the fifth and sixth centuries AD, and closely related to Cornish and Welsh.

Brit = Old British, the P-Celtic Insular Celtic language spoken in Britain and attested in the last centuries BC and first centuries AD.

BSLP = *Bulletin de la Société linguistique de Paris*.

BSOAS = *Bulletin of the Society for Oriental and African Studies*.

Buck = Buck, Carl (1949) *A Dictionary of Selected Synonyms in the Principal Indo-European Languages*. Chicago, University of Chicago Press.

Bulg = Bulgarian, a south Slavic language closely related to (Slavic) Macedonian. Old Bulgarian (ninth-eleventh century BC) is close to Old Church Slavonic but after the eleventh century Bulgarian saw considerable restructuring such as the loss of most of its case forms.

Burgundian = Germanic language, related to Gothic, which spread from Thuringia to Gaul in the fifth century; some lexical items have been preserved in French.

Burmese = the (non-IE) Sino-Tibetan language which is the major language of Burma (Myanmar).

Byzantine = medieval Greek as spoken in the Byzantine Empire.

Calabrian = pertaining to the peninsula (Italian and Greek spoken there) that forms the toe of Italy.

Camp = citations from Campbell, L. (1990) Indo-European and Uralic tree names. *Diachronica* 7, 149-180.

caus = causative, a verb indicating causation, e.g., "to *fell* a tree" where *fell* = *cause to fall*.

Celtic = the major IE stock of western Europe, where it was spoken in the British Isles, Gaul, northern Italy, Iberia, southern Germany and Switzerland, and was carried as far east as Anatolia (Galatian).

centum = those descendants of PIE in which the PIE dorso-palatals did not assibilate. Designated by the Latin word for 'hundred', *centum* (pronounced in Classical Latin as *kentum*). Opposed to *satəm*.

Chechen = language of the Northeast (Chechen-Ingush) group of (non-IE) Caucasian languages.

Chuvash = a (non-IE) Turkic language spoken along the middle Volga where their ancestors settled about the fourth century AD.

cist = stone-built box-like construction which served as a receptacle for a burial.

cognate = related by origin, as two words in related languages descended from the same word in the language ancestral to both languages; words may be non-cognate if they have not been descended from a common word in their mutual proto-language or if they reflect a borrowing from one language to another, e.g., NE the element *were* 'man' in *werewolf* is cognate with Lat *vir* 'man' as they both derive from a common ancestral PIE word; on the other hand NE *man* is not cognate with Lat *vir* nor is NE *virile* 'manly' which is a borrowing (via French) from Lat *virilis* 'manly'.

coll. = collective, a noun that designates a collection of persons or things taken as a unit, e.g., NE *hair* when it means 'mass of hair' (and opposed to hair 'a single hair').

com. = common, designation of the animate (i.e., non-neuter) gender of Hittite and other Anatolian languages.

conj. = conjunction, a word, such as *and, but, because*, etc., that connects other words, phrases, clauses, or sentences.

consonant stem = a type of PIE noun which ended in a consonant, e.g., **ménes-* 'thought' and opposed to those nouns whose stem ended in some sort of vowel, e.g., **pórt-u-* 'passage' or **u̯l̥k^w-o-* 'wolf'.

continuant = a consonant, such as *s, f*, that can be prolonged at will without change in quality; opposed to a stop.

Corn = Cornish, Celtic language of the Brittonic group (and closely related to Welsh) spoken in Cornwall.

correlative = a grammatical construction involving two words which correspond to one another in some fashion and which are used together, e.g., correlative clauses, "*when* we need you, *then* we'll call you".
Cretan = that variety of ancient Greek spoken on Crete.
CrimGoth = Crimean Gothic, a variety of eastern Gothic spoken in the Crimea, extinct by the eighteenth century; attested by a fragmentary wordlist collected in the sixteenth century.
Cypriot = a dialect of classical Greece spoken on the island of Cyprus, closely related to classical Arcadian and Mycenaean.
Czech = Czech, the western Slavic language of Bohemia and Moravia, first attested about the eleventh century AD.
Dacian = IE stock spoken north of the Danube, primarily in the present territory of Romania, during the last centuries BC. It is very poorly known, attested by personal and place-names, a number of glosses and presumed remnants in the Romanian language.
daēvish = in Avestan, pertaining to the special vocabulary used to refer to the *daēvas* (demons) in the Zoroastrian religion.
Dan = Danish, Scandinavian language of the Germanic stock. The earliest Danish, attested from about 1300 AD is an East Norse language (along with Swedish).
Dardic = a northwestern subgroup of the modern Indic languages whose most important member is Kashmiri.
dat. = dative, that form of the noun which characteristically refers to the recipient of an action, e.g., *him* in the English sentence "I gave the book to *him*".
deaspiration = loss of aspiration, e.g., **bh* > *b*, **dh* > *d*, etc.
deictic = a word specifying place or time, e.g., *here, there, this, that, then.*
Del = citations found in Delamarre, Xavier (1991) *Le vocabulaire indo-européen: lexique étymologique thématique.* Paris, J. Maisonneuve.
delabialization = alternate name for unrounding, e.g., $k^w > k$.
Delphic = that variety of ancient Greek spoken in Delphi.
demonstrative = specifying or singling out a particular noun. *This, these, that, those* are demonstrative adjectives, e.g., "the wool of *these* sheep is to be shorn".
denasalization = loss of nasal resonance in a sound, e.g., *m* > *b*, *n* > *d*, etc.
dendrochronology = the dating of events and environmental changes by analysis of the corresponding patterns of growth rings on trees and wooden remains from archaeological sites.
denominal ~ denominative = derived from a noun, e.g., Latin *piscāre* 'to fish' derived from *piscis* 'fish'.
dental = a sound made with the tip of the tongue against the back of the upper teeth, e.g., NE *th* in *think.*
desiderative = designating a derived verb which expresses a desire to do the act denoted, e.g., Lat *ēdere* 'to eat' underlies a desiderative *ēsurīre* 'to be hungry, to want to go and eat'.
desinence = grammatical suffix.
devata-dvandva = compound form in Indic that unites the names of two (or more) deities into a single word where both elements were originally in the dual, e.g., OInd *Mitrā-váruṇā* 'Mitra and Varuṇa' or *Indra-vāyū* 'Indra and Vāyu'.
deverbative = a word derived from a verb, e.g., NE *worker* from *(to) work.*
devoicing = the making of a sound voiceless, e.g., *d* > *t* or *b* > *p*.
dial. = dialectal, a form of the language not regarded as standard (at least in dictionaries).
diminutive = a word bearing a suffix denoting smallness, youth, familiarity, or affection, e.g., *booklet* from *book* or words in *-ito* or *-ita* in Spanish such as *muchachito* 'dear little boy' from *muchacho* 'boy'.
dissimilation = a phonological process whereby two sounds within a word become less alike, e.g., the dissimilation of *r...r* > *l...r* in Late Latin *pelegrīnus* 'pilgrim' from earlier *peregrīnus.*
disyllabic = having two syllables.
Doric = one of the principal groups of the West Greek dialects which presumably did not enter Greece until after the Mycenaean inscriptions. Doric is found in northern Greece, the Peloponnesus and the Aegean.
dorsal = a sound made with the back of the tongue against the roof of the mouth, e.g., NE *k*.
dorso-palatal = a sound involving the back part of the tongue and the hard palate, e.g., PIE **ĝ* and **ḱ*.
dorso-velar = a sound involving the back part of the tongue and the soft palate, e.g., NE *k, g.*
Dravidian = a non-IE language family of central and southern India which includes Tamil, Telegu, Kannada and Malayalam.
dual = designating a number category that indicates two persons or things, e.g., Greek *λύκω* 'two wolves', and opposed to the singular, denoting one person or thing (Greek *λύκος* 'wolf') and plural, denoting (in languages without a dual) more than one person or thing or (in languages with a dual) more that two persons or things (Greek *λύκοι* '[three or more] wolves').
Dutch = West Germanic language spoken primarily in the Netherlands, Belgium (where it is known as Flemish) and in a sufficiently changed form to rank as a separate language, in South Africa (Afrikaans).
e-grade = in an ablauting paradigm, having the vowel **-e-* (less commonly **-ē-*) rather than **-o-* or no vowel.
Egyptian = a major branch of the (non-IE) Afro-Asiatic languages that also include Semitic and Berber.
EIE = *Études Indo-européennes.*
ejective = a stop produced by closing the vocal cords and rasing the larynx, thus compressing the air in the upper throat and mouth which is released by the opening of the lips and/or tongue which have been closed as for a regular voiceless stop, e.g., the initial consonant of Osset *k'ullaw* 'hernia'.
Elamite = the non-IE language in Elam in what is now southwestern Iran.
emphatic = in phonology, a sound produced with more than ordinary articulatory energy, e.g., the *b* of NE *bullshit* when emphatically spoken.
enclitic = a word that has no independent accent in a sentence, forming a single phonological unit with the preceding or following word, e.g., Latin *-que* 'and' in *Senātus populusque Rōmānus* 'the Senate and People of Rome'.
enlargement = addition of consonantal extension to PIE root, e.g., **ten-s-* or **ten-gh-* beside **ten-*, all 'stretch'. Presumably the remnant of some early PIE derivational process but one without much or any semantic consequence in reconstructible PIE.
Eneolithic = the so-called 'copper-stone' age, i.e., the cultural and chronological period where copper metallurgy existed alongside the production of stone tools but before the early Bronze Age (although there is often an overlap between this term and both Neolithic and early Bronze Age in various regions of Eurasia). In eastern Europe, the period generally comprises the late 5th and 4th millennium BC.
eponymic = pertaining to or using an eponym, a person whose name has given rise (by fact or repute) to the name of a people, place, institution, etc., e.g., Constantinople from the name of the emperor Constantine.
ergative = the name given to a morphological and syntactic situation whereby the morphological shape of the subject of an intransitive verb and the object of a transitive verb is the same while the shape of the subject of a transitive verb is different.
Ernout-Meillet = A. Ernout and A. Meillet (1967) *Dictionnaire étymologique de la langue latine: histoire des mots.* 4th ed. Paris, Klincksieck.
Estonian = along with Finnish, the major Balto-Finnic language of the Uralic language family; spoken as the national language of Estonia.
ethnonym = designation of an ethnic group, e.g., English, German.
Etruscan = a probably non-IE language (certainly non-Italic) anciently spoken in Tuscany in Italy.
etymon = the original form of a word.
euhemerize = the process whereby gods develop out of deified heroes or, to the contrary, where mythological stories once attributed to gods are "reassigned" to human heroes.
eventive = describing verbs that reflect events, e.g., "He *stood up*", as opposed to states, e.g., "He *was standing*".
exocentric = designating a compound noun or noun derivation whose distribution is different than that of any of its constituents (e.g., NE *redcoat* beside *red* and *coat*).

factitive = a verb derived from a noun or adjective which expresses the creation of the quality of the underlying noun or adjective (e.g., NE *whiten* from *white*).
familiar = a word whose normal use is restricted to the family or other intimate associates, e.g., *daddy* as opposed to the more general *father*.
fem. = feminine, one of the divisions which PIE nouns, and the nouns of many IE languages, are divided, opposed to "masculine" and "neuter". Feminine nouns do not necessarily refer to females, e.g., Lat *mēnsa* (fem.) 'table', though nouns whose referent is an adult female human being are, almost always, feminine in gender.
feminization = creation of a feminine noun from a masculine or neuter, e.g., Lat *porca* 'female pig, sow' from *porcus* 'hog, pig'.
Finnish = the major representative of the Balto-Finnic subgroup of the Uralic languages.
Finno-Ugric = the major western group of the Uralic language family that includes some fifteen languages (Finnish, Estonian, Hungarian, etc.) today; the eastern branch comprises the Samoyedic languages.
First Function = the ideological conceptualization of the religious and juridical components of Indo-European society reflected in the system of comparative mythology championed by Georges Dumézil and others. In crude social terms, the "priest class" and its attendant ideology.
first person = the speaker, i.e., 'I' or 'we', in a conversation.
Fomorians = otherworld enemies of the Tūatha Dē Danann in Irish cosmological and eschatological myth.
formal = a word whose normal use is restricted to more formal situations, e.g., NE *transport* as opposed to *carry*.
formant = grammatical suffix (alternate designation for desinence).
fortis = referring to a stop consonant pronounced with more than ordinary articulatory energy, e.g., the *t* in NE *tumbled*.
Fraenkel = Fraenkel, E. (1962-1965) *Litauisches Etymologisches Wörterbuch*. Heidelberg, C. Winter.
Franconian = designating a group of West Germanic dialects spoken near or on the middle and lower Rhine, roughly the varieties of West Germanic spoken by the Franks (Old Low Franconian is the ancestor of Dutch).
Fried = Friedrich, Paul (1970) *Proto-Indo-European Trees*. Chicago, University of Chicago Press.
Fris = Frisian, a West Germanic language closely related to English and spoken in the Dutch province of Friesland.
full-grade = referring to a PIE formation where the vowel is either *-e-* or *-o-* (usually accented), e.g., PIE **dór-u* (nom.-acc.) 'tree' where the root syllable shows a full-grade *-o-*. Compare **dr-óus* (gen.) 'wood' where the root syllable has zero-grade while the inflectional syllable has full-grade.
Galatian = adjective referring to the Celtic immigrants found in central Anatolia in classical times and to their language. The Celtic Galatians formed the nucleus of a larger Roman province to certain congregations of which Paul wrote an epistle.
Gallo-Lat = Gallo-Latin, see Gallo-Roman.
Gallo-Roman = referring to the Latin spoken in Gaul after the Roman conquest, a Latin which had borrowed a number of words from the Celtic language (Gaulish) originally spoken there.
Gath = Gathic, designating the oldest variety of Avestan, in its original form the language of Zaraθuštra.
Gaul *see* Gaulish.
Gaulish = the Continental Celtic language of ancient Gaul, generally attested during the period from the third century to first centuries BC.
Gawarbati = Dardic (i.e., northwestern Indic) language spoken in Afghanistan near the Pakistan frontier, where the Bashgal and Chitral rivers merge to form the Kunar.
gemination = the doubling of a consonant, e.g., in Lat *ferrum* 'iron' or *sagitta* 'arrow'.
generalizing particle = a small uninflected word (or suffix) that serves to make a pronoun or verb general in its application (e.g., NE *-ever* in *whoever*).
genitive = genitive case, the IE case generally denoting possession, e.g., **gʷṓus* 'cow', but gen. **gʷou̯ós* 'of the cow' (cf. possessive).
Georgian = the best known of the (non-IE) South Caucasian (Kartvelian) languages; spoken in the Georgian Republic.
Germanic = one of the twelve major branches of Indo-European, spoken originally in northwestern Europe. It includes English, Frisian, Dutch, German, Yiddish, Danish, Swedish, Norwegian, Icelandic, Faeroese, and various other extinct languages.
Gheg = the northern variety of Albanian, opposed to Tosk, the southern variety. It formed the basis of the pre-War standard language. (The current standard is based on Tosk.)
GI = citations from Gamkrelidze, T. and V. Ivanov (1995) *Indo-European and the Indo-Europeans*. 2 vols. Berlin and New York, Mouton de Gruyter.
glide = in phonology a synonym for approximant, e.g., NE *y* and *w*.
Gmc = *see* Germanic.
Gortyn = ancient city of central Crete, known for its early, well-preserved law code which forms one the earliest long inscriptions in the Doric variety of Greek.
Goth = Gothic, the sole example of eastern Germanic, attested by a fourth century AD translation of the Bible; fragmentarily attested in the Crimea (Crimean Gothic) in the sixteenth century before becoming extinct by the eighteenth century.
Grassman's Law = a rule in both Greek and Old Indic phonology that prohibits two aspirated consonants in adjacent syllables; where two aspirated consonants would be expected, the first is deaspirated (thus Greek **thíthēmi* 'I put'> *títhēmi* and OInd **dhádhāmi* 'I put' > *dádhāmi*). Named after Hermann Grassmann (1809-1877) who recognized the law in 1863.
Grimm's Law = designation of the systematic phonological change in the prehistory of Germanic whereby PIE voiced aspirated stops were deaspirated, voiced stops became voiceless, and voiceless stops became continuants (e.g., **dh, d, t > d, t, þ*). Named after Jacob Grimm (1785-1863) who recognized the relationship in 1822. See also Verner's Law.
Grk = Greek, the major IE stock of Greece and its ancient colonies, attested as Mycenaean from about the fourteenth century BC, and as Homeric Greek (*c* 800 BC) then Classical Greek from *c* 600 BC until the beginning of the Christian era.
hapax = a short form of *hapax legomenon*, meaning a word that occurs only once in the recorded attestation of a given language; consequently, a *hapax* may often be very uncertain with respect to both form and meaning.
Hattic = a non-IE language spoken at Hattusa, prior to its domination by the Hittites. The surviving texts, found in the Hittite archives, are largely liturgical and Hattic loanwords are found in Hittite.
Hausa = an Afro-Asiatic language (a group which also contains Semitic) spoken in Niger and northern Nigeria.
Hebrew = a Semitic (Afro-Asiatic) language spoken in ancient Judea and Samaria and, in a revived form, in modern Israel.
Hesychius = Hesychius of Alexandria, a fifth century AD Greek scholar who compiled an extensive dictionary of the Greek language; he is sometimes the only source for Greek cognates with other IE words.
heteroclisis = the name for a morphological situation in Proto-Indo-European and many of its daughter languages whereby a given noun is formed from two stems, one for the nominative and accusative and the other for the rest of the cases. The most common type involved a nominative and accusative with *-r* (e.g., PIE **u̯ód-r̥* 'water') and the rest of the cases in *-n-* (e.g., **ud-n-ós* 'of water').
HierLuv = Hieroglyphic Luvian, an Anatolian language closely related to (Cuneiform) Luvian and attested in a hieroglyphic script, devised in Anatolia, during the period *c* 1300–700 BC.
hierogamic = pertaining to sacred marriage.
hippomorphic = having the shape of a horse.
Hirt's Law = designation of two laws discovered by Herman Hirt (1865-1936); the first recognizes the leftward retraction of PIE accent in Balto-Slavic from a final syllable to a preceding one, provided the latter contained a laryngeal (e.g., PIE **dhuh₂mós* > Lith *dū́mas*); the second recognizes the leftward shift of PIE accent in Greek from the middle

syllable of three short syllables to the first (e.g., PIE **u̯elútrom* > Grk *ἔλυτρον*). Both rules were discovered in 1895.

Hit = Hittite, best attested language of the Anatolian stock, the official court language, attested in over 25,000 clay tablets, of the Hittites of central Anatolia (Turkey) which flourished during the period *c* 1650-1190 BC.

Holocene = the current period since the (last) Ice Age or Pleistocene, beginning about 10,000 years ago.

holokinetic = a nominal accent pattern in PIE where the accent falls on the root syllable in the nominative and accusative but on the last suffixed syllable in the other cases, e.g., **pónt-ō*h_2*-s* 'way', gen. **pn̥t-*h_2*-ós*.

Homeric = the Greek dialect of the Homeric poems and epics dated to *c* 800 BC; it was an artificial dialect derived primarily from the Ionic and Aeolic dialects.

homophonous = words having the same sound, e.g., NE *right* and *write*.

Hungarian = major representative of the Ugric branch of the Finno-Ugric languages, the western division of the Uralic language family.

Hurrian = the major non-IE language of eastern Anatolia and the upper reaches of the Tigris and Euphrates. The Hurrians influenced greatly the religious development of the Hittites and Luvians in the period after 1400 BC. Hurrian is closely related to Urartian.

hydronomy = (the system of) names given to rivers, lakes, and other bodies of water in a particular area.

hysterokinetic = a nominal accent pattern in PIE where the accent falls on the second to last suffixed syllable in the nominative and accusative but on the last suffixed syllable in the other cases, e.g., PIE **must-éi-s* 'fist', gen. **must-i̯-ós*.

i-stem = a variety of noun or adjective in Proto-Indo-European or many of its daughter languages that is derived by the addition of an *-i-*, e.g., PIE ***h_2*ou̯-i-* 'sheep'.

Ibero-Celtic = the variety of Celtic spoken in classical times in Iberia, known only from a few, mostly short, inscriptions; also known as Hispano-Celtic.

idiolect = the variety of a language spoken by an individual speaker.

IE = Indo-European.

IEW = citations from Pokorny, J. (1959) *Indogermanisches Etymologisches Wörterbuch*. 2 vols. Bern and Stuttgart, Francke Verlag.

IF = *Indogermanische Forschungen*.

IJAL = *International Journal of American Linguistics*.

Illyrian = the ancient IE language spoken in classical times in Illyria (the equivalent of the old Yugoslavia and adjacent parts of Albanian). It is known almost exclusively from proper names recorded by Latin authors.

imperative = referring to a special form of the verb that expresses a command or plea, e.g., NE "Speak!" or "Be gone!".

imperfect = referring to a special form of the PIE verb, or of many of its daughter languages, that refers to a past activity as an on-going one, much as the New English past progressive, "she *was working* on her thesis".

indefinite article = a word modifying a noun that introduces to a conversation, e.g., "there once was *a* king...".

indefinite pronoun = a pronoun that refers to an indefinite referent, e.g., NE *anyone*, *someone*.

Indic = IE stock found largely in India, including Sanskrit (= Old Indic) and its modern descendants such as Hindi, Panjabi, Bengali, etc.

indicative = designation of a verbal mood that expresses objective fact.

Indo-Aryan = see Indic.

Indo-Hittite = an alternate name for Indo-European, called so by those who believe that the Anatolian languages (including Hittite) broke off well before there were any further divisions in the proto-language.

Indo-Iranian = a major "superstock" of the Indo-European languages comprising Iranian, Indo-Aryan and the Nūristāni languages; also used to describe the reconstructed ancestor of these languages.

inf. = infinitive, a verbal form that does not specify person and shares certain characteristics with nouns; in NE preceded by *to*, e.g., "*to sleep* when one is tired is natural". Attested infinitives are largely the result of independent creation in those IE languages that have them.

infix = an affix inserted in the middle of a word (e.g., the *n* in NE *stand* vs. *stood*).

Ingush = a Northeast Caucasian language, related closely to Chechen.

injunctive = designation of a verbal mood that expresses direction or a mild command, e.g., NE "you *should not eat* the mouldy bread".

instr. = instrumental, the designation of a nominal case that indicates means or instrument, OInd *grā́vā* 'pressing stone', instr. *grā́vṇā* 'with the pressing stone'.

intensive = a derived verb which emphasizes the act denoted, e.g., OE *findian* 'find' compared to the intensive *fandian* 'seek out, explore, investigate'.

intervocalic = situated between vowels, e.g., the *-t-* in NE *pity*.

intrans. = intransitive, the designation of a verb which does not take a direct object, e.g., "they moved", as opposed to transitive verbs which do take direct objects, e.g., "they built a house".

Ionic = major dialect grouping of ancient Greek, spoken in Euboea, the northern Cyclades, and southwestern Anatolia and with Attic (Attic-Ionic), it provided the basis of much of classical Greek writing and modern Greek.

Ishkashimi = a Southeast Iranian language spoken in northeastern Afghanistan and adjacent portions of Tadzhikistan. Attested only in modern times.

isogloss = boundary of the area where a significant linguistic feature (such as a particular pronunciation, morphological feature, or vocabulary item) occurs.

Italo-Celtic = a possible IE subgroup composed of Italic and Celtic.

iterative = a derived verb which highlights the repetition of the act denoted, e.g., Grk *ποτάομαι* 'hover, fly about' beside *πέτομαι* 'fly' or Lat *cantitō* 'sing frequently, rehearse music' beside *cantō* 'sing'.

JIES = *Journal of Indo-European Studies*.

Kalaśa = Dardic (i.e., northwestern Indic) language of the Chitral Valley of northwestern Pakistan.

Karakalpak = a Turkic ethnic and linguistic group located along the lower Amu Darya and along the southern edge of the Aral Sea in Uzbekistan.

Kartvelian = the (non-IE) South Caucasian language group among which Georgian is the best known.

Kashmiri = dominant Indic language of the Indian state of Kashmir; attested from the fourteenth century AD.

Kashubian = a West Slavic language, closely related to Polish, and spoken in Pomerania between the Oder and Vistula.

Kati = Nūristāni language of Afghanistan, spoken in two discontinuous areas of the Hindu Kush with some speakers also settled in the Chitral area of Pakistan.

kerb = a ring of stones set to reinforce the earth at the base of a mound.

Khot = Khotanese, an Eastern Iranian language spoken along the southern rim of the Tarim Basin in Xinjiang.

Khowar = Dardic (i.e., northwestern Indic) language of the Chitral area of Pakistan.

Khufi = dialect of Roshani, a Southeast Iranian language.

Khwarezmian = East Iranian language attested (not always continuously) from the third to fourteenth centuries AD in the area of Central Asia centered on Khiva.

Kluge's Law = the phonological process in Proto-Germanic whereby an obstruent of any sort plus a following *-n-* gave a geminate voiceless stop, e.g., PIE **-pn-*, **-bn-*, **-bhn-* > Proto-Gmc **-pp-*.

koiné = a language or dialect common to a wide area in which different languages or dialects are used locally, particularly the common Greek literary language from the close of the classical Attic period to the Byzantine era.

Komi = also known as Zyryan, Komi belongs to the Finnic branch of the Uralic language family and is spoken in the north of Russia (in the Komi Autonomous Region).

Kurdish = a Northwest Iranian language spoken in southeastern Turkey, northern Iraq, and northwest Iran, and by scattered groups in Syria, and Central Asia. Attested only in modern times.

Kurgan = blanket term for a series of archaeological cultures of the Copper and early Bronze ages in the steppelands and forest-steppe of the Ukraine and south Russia. It derives its name from the Russian *kurgan* (a Turkish loanword) which designates a tumulus or barrow which typically covered the burials of the steppe.

Kurgan theory = a model of Indo-European origins, championed in particular by Marija Gimbutas, that the Indo-Europeans originated and dispersed from Copper and early Bronze Age cultures of the Ukraine and south Russia.

Kurgan tradition = a composite of Neolithic, Eneolithic and early Bronze Age cultures of the steppe and forest-steppe north of the Black and Caspian seas. These cultures are united by the predominance of burial under a *kurgan* 'mound'.

KZ = one of the major journals of Indo-European research; officially known as *Zeitschrift für vergleichende Sprachforschung* in the period 1852–1987 (vols. 1–100) and since 1988 as *Historische Sprachforschung*. It is known popularly (irrespective of its proper name) as *Kuhn's Zeitschrift*, hence the abbreviation, after Adalbert Kuhn, one of its founders.

labial = a sound involving upper and lower lips, e.g., NE *p*, *b*.

labialization = addition of lip-rounding to the pronunciation of a vowel or consonant, e.g., PIE $*k^w$, $*g^w$, $*g^wh$.

Laconian = designating a variety of ancient Greek spoken in Laconia (the region surrounding Sparta).

lamino-palatal glide = the sound of English *y* as in *you*.

laryngeal = a sound produced in or near the larynx, e.g., English *h*. In this encyclopedia, PIE laryngeals whose exact pronunciation is unknown (indeed not everyone believes that they were all phonetically laryngeal) are designated as h_1, h_2, h_3, h_4, h_a (when either h_2 or h_4) or h_x when the nature of the particular laryngeal is unknown.

Lat = Latin, the major Italic language of Italy from which the modern Romance languages are derived.

Latv = Latvian, the northernmost of the surviving Baltic languages; attested since the sixteenth century. The national language of Latvia.

lengthened-grade = in an ablauting paradigm, having an **-ē-* or **-ō-* rather than **-e-*, **-o-*, or no vowel.

lenis = pronounced with relatively less muscular effort (the opposite of fortis), e.g., the *d* in NE *doe* (while the *t* in *toe* would be fortis).

lenited = having become lenis (especially with reference to the Celtic languages where, under certain circumstances, stops may develop into the corresponding continuants, e.g., *p* > *f*, *b* > *v*).

Lesbian = designating a variety of ancient Greek spoken on the island of Lesbos; the language of the Greek poet Sappho.

Lex Salica = medieval law code, written in Latin, of the Salian Franks.

lexicalization = creation of a word in the formal sense where it is subject to the usual paradigmatic rules, e.g., NE *moo* > "the cow *mooed*", "we could hear the *mooing* of the cows".

Ligurian = an ancient (presumably) Celtic language of northwestern Italy and southeastern France.

Lindeman variant = a phonological variant of a PIE word caused by Lindeman's Law whereby a monosyllabic word beginning with two consonants may have a disyllabic variant if the second consonant is a resonant, e.g., **di̯ḗus* > **dii̯ḗus* 'sky-god'.

Lith = Lithuanian, the most conservative of the two surviving Baltic languages; attested since the sixteenth century. The national language of Lithuania.

lithic = literally 'of stone' but employed in archaeology to designate implements made of stone (often flint, chert, obsidian).

loc. = locative, the designation of a nominal case which indicates location, e.g., OInd *vít* 'settlement', locative *viśí* 'in the settlement'.

LowGerm = that variety of German (also known as Plattdeutsch) spoken in the northern (and generally lower) parts of Germany, characterized by not having undergone the High German consonant shift (*þ* > *d*; *p*, *t*, *k* > *pf*, *ts*, *ch*; *b*, *d*, *g* > *p*, *t*, *k*).

LowSorb = Lower Sorbian, variety of (West Slavic) Sorbian spoken in the area of Cottbus in eastern Germany.

Luvian = an ancient Anatolian language spoken in southeastern Anatolia.

Lycian = ancient Anatolian language of southwest Asia Minor.

Lydian = ancient Anatolian language of west central Asia Minor.

Maced = Macedonian. Citations in this encyclopedia refer to the ancient IE language of Macedonia, a language closely related to Greek. Macedonian is also the designation of a South Slavic language, closely related to Bulgarian, spoken in the Republic of Macedonia.

Maldivian = an Indic language, the official language of the Republic of the Maldives in the Arabian Sea, and most closely related to Sinhalese.

Manichean Sogd = that variety of Sogdian in which Manichean religious literature was written (opposed to Buddhist Sogdian and Christian Sogdian).

Männerbund = a warband consisting of young men grouped around a leader; such units have frequently been postulated for various Indo-European (and non-IE) traditions.

Marathi = an Indic language, the official language of the Indian state of Maharashtra, attested since the eleventh century AD.

Mari = earlier designated Cheremis, this is a subgroup of the Finnic branch of the Uralic languages; it is spoken east of Gorki between the Volga and Kama rivers.

MArm = Middle Armenian, Armenian from roughly the ninth century AD to the thirteenth, particularly the chancery language of the Armenian kingdom of Cilicia in the twelfth and thirteenth centuries.

masc. = masculine, one of the three genders of (P)IE nouns, the others being feminine and neuter. Masculine nouns do not necessarily refer to males, e.g., Lat *portus* (masc.) 'harbor, port', though nouns whose referent is an adult male human being are almost always masculine.

MBret = Middle Breton, the Celtic (Brittonic) language attested in Brittany during the period 1000–1600 AD.

MBulg = Middle Bulgarian, the Bulgarian language of the twelfth to sixteenth centuries.

MCorn = Middle Cornish, the Celtic language of Cornwall, closely related to Welsh, which is attested from the period *c* 1200–1575 AD. As the most abundantly attested variety of Cornish, this has served as the template for the modern (revived) Cornish language.

MDutch = West (Low) Germanic language spoken in the Netherlands in the period *c* 1300 to 1500.

ME = Middle English, the English language attested from the twelfth through fifteenth centuries.

medio-passive = designating the voice of the verb which expresses middle and passive (as a designation often used interchangeably with "middle").

Meillet's Law = the change in Slavic of certain Balto-Slavic acute intonations into circumflex ones. Named after Antoine Meillet (1866-1936).

Mesolithic = the cultural stage of hunting-gathering economies following the last Ice Age and preceding the advent of farming (Neolithic) economies; generally set, depending on geographical area, to *c* 10,000–4000 BC.

Messapic = an ancient, non-Italic, IE language of southeastern Italy.

metathesis = the transposition or reversal of sounds, e.g., OE *bridd* and ME *brid* by a process of metathesis have given NE *bird*.

metonymy = figure of speech whereby a word denoting an attribute or adjunct of a thing is substituted for the word denoting the thing itself, e.g., NE (British) *crown* for '(royal) government'.

MHG = Middle High German, the High German language attested from the period *c* 1050–1500.

middle = designating the voice of the verb which expresses reflexive or reciprocal action or action which otherwise includes the subject (as a designation often used interchangeably with the "medio-passive"), e.g., active: "I *wash* the car", middle: "I *wash myself*". The middle is indicated by different endings in most IE verbal paradigms, e.g., OInd *bibharmi* 'I carry' (active) but *bibhre* 'I carry' (middle).

Milyan = a dialect of the Anatolian language Lycian (or a language very closely related to Lycian).

MInd = Middle Indic, designating the languages of the Indic branch of IE from approximately 600 BC to 100 AD, in the early part of this period contemporary with Old Indic which was still in use as a language of liturgy, culture, and scholarship but no longer regularly a spoken language.

MIr = Middle Irish, Celtic language spoken in Ireland and recorded during the period *c* 900–1200 AD.

MIran = Middle Iranian, designating Iranian languages from approximately 300 BC to 1000 AD.

misdivision = an (originally incorrect) reassignment of sounds from one morpheme or word to an adjacent one, e.g., NE *a nauger* > *an auger* or *a napron* > *an apron*.
Mitanni = a Hurrian (non-IE)-speaking people and language of the upper Euphrates, attested in the fifteenth and early fourteenth centuries BC; the language retains some elements of Indo-Aryan in its vocabulary.
MLat = medieval Latin, a rather generic designation for Latin of the third century AD and later. (The cutoff date between Latin and medieval Latin follows that of the *Oxford Latin Dictionary*.)
MLG = Middle Low German, Low German from the middle of the eleventh century to the middle of the fourteenth century AD.
Mongolian = a non-IE group of languages spoken in Mongolia and adjacent areas.
monolexemic = a lexical construction consisting of a single word, e.g., NE *school* vs. *educational institution*.
Mordvin = The southernmost of the Finnic languages of the Uralic family; it is spoken on either side of the Middle Volga.
morphologization = conversion of an originally independent word into an affix, e.g., OE *līc* 'like' has become the affix *-ly* in NE adjectives and adverbs.
MPers = Middle Persian, the Southwestern Iranian language, descended from Old Persian, that was the official language of the Sassanian Empire. Attested from about 200 BC to the seventh century AD, in either the Pahlevi or Manichean script, in documents and inscriptions in what is now Iran, Afghanistan, and Central Asia.
MSS = *Münchener Studium zur Sprachwissenschaft*.
multiplicative = a numeral expressing a factor of multiplication, e.g., NE *twice* or *fourfold*.
Munji = an Eastern Iranian language spoken in northeastern Afghanistan.
MWels = Middle Welsh, Celtic (Brittonic) language of Wales attested in the period *c* 1200–1500 AD.
Myc = Mycenaean, the earliest known form of Greek, attested from the sixteenth (?) to the thirteenth centuries BC.
Nakh-Dagestani = a non-IE language family of the Russian Caucasus, including Chechen, Avar, Lezgian, etc.
Narten present = a type of PIE present characterized by an accented **-ē-* or **-ō-* in the singular but an accented **-e-* in the dual and plural.
nasal present = a type of PIE present characterized by a suffixed **-n(e)u-* or **-n(e)h$_a$-* (cf. NE *waken*, as opposed to *wake*), or by **-n(e)-* infixed before the last consonant of the root (cf. NE *stand*, as opposed to *stood*).
nasal suffix = any PIE derivational suffix having an **-n-* as its first element, either forming an *n*-present or a nominal *n*-stem.
NDutch = modern Dutch, the West Germanic language spoken in the Netherlands (and among the adjacent Flemings of Belgium) from c 1500 onwards.
NE = New (Modern) English, attested since *c* 1500.
neo-vṛddhied = containing a new, i.e., possibly post PIE, long-grade **-ē-* or **-ō-*.
Neogrammarian = designating a group of nineteenth century linguists (called in German the *Junggrammatiker*) who held strongly the belief that phonological change, when properly understood, was exceptionless.
Neolithic = the cultural period marked by the inception of the earliest economies based on domestic plants and livestock and which were technologically dependent on stone (or organic) tools rather than metals. Dependent on geographic location, the Eurasian Neolithic dates from *c* 8000 BC in the Near East (c 4000 BC on the European periphery) until about 3000–2000 BC.
neut. = neuter, one of the three genders of (P)IE nouns, the others being masculine and feminine. Neuter nouns usually refer to inanimate objects, though not all inanimate objects are designated by neuter nouns, e.g., Lat *mēnsa* (fem.) 'table' or *portus* (masc.) 'harbor, port'. In some IE stocks any noun characterized as a diminutive is a neuter, whether animate or not, e.g., NHG *kindlein* (neut.) 'small child', *mädchen* (neut.) 'girl, miss' or Grk *παιδίον* (neut.) 'child'.
NFris = modern Frisian, the Frisian language attested since c 1600.
NGrk = modern Greek, the Greek language attested since the fall of Constantinople and the collapse of the Byzantine state and language, i.e., since about the fifteenth century.
NHG = New High German, the modern Germanic language attested from about the beginning of the sixteenth century.
NIce = modern Icelandic, the Icelandic language from about the fifteenth century onwards.
NIr = modern Irish, Celtic language spoken in Ireland since c 1200 AD.
nomen agentis = agent noun, e.g., NE *driver* from *drive*.
nominalization = the creation of a noun from another part of speech, usually a verb, e.g., NE *give* > *gift*, or an adjective, e.g., *poor* > *the poor*.
nominative = designating a nominal case which indicates the subject.
Norw = Norwegian, the modern language of Norway from the nineteenth century onwards.
Nostratic = a possible macrofamily of languages which comprises (as a Eurasiatic group) Indo-European, Uralic-Yukaghir, Altaic, Chukchi-Kamchatkan, Gilyak and Eskimo-Aleut and the somewhat more distantly related Kartvelian, Elamo-Dravidian, Sumerian and Afro-Asiatic. Its home has speculatively been set to the Near East *c* 15,000 BC. Where a Nostratic root has been claimed to underlie an Indo-European root, it has been indicated with reference to the standard Nostratic dictionary number and entry and prefixed with BK.
NPers = New Persian, the Southwestern Iranian language that is the official language of Iran and, in dialectally divergent forms of Tadzhikistan and is one of the two official languages, along with Pashto, of Afghanistan. Not a direct descendant of the official Middle Persian of the Sassanian Empire, New Persian is attested from the eighth century AD.
n-stem = in (P)IE a nominal forming suffix containing *-n-*, e.g., Lat *nōmen* 'name', genitive *nōminis* (and residually in NE *oxen*).
Nubian = the non-IE languages of Nubia, anciently between Egypt and the Sudan.
Nūristānī = a particular group (Ashkun, Gawarbati, Prasun, Tregāmi, and Waigali) of Indo-Iranian languages spoken in the region of the Hindu Kush in Afghanistan. Thought by most to be a group that is co-ordinate with both Indic and Iranian while others have wished to ally it more closely with either Indic or Iranian.
o-grade = in an ablauting paradigm, having **-o-* (less commonly **-ō-*) rather than **-e-* or no vowel.
OArm = Old Armenian, the earliest attested Armenian of the fifth century AD.
oblique = any nominal case but the nominative.
OBret = Old Breton, the Celtic (Brittonic) language attested in Brittany during the period *c* 600–1000 AD.
OBrit = Old British, the ancient Celtic language of Britain until about the eighth century AD (the ancestor of Welsh, Cornish, and Breton).
obstruent = a class of consonants including stops (e.g., *t*, *k*) and continuants (e.g., *f*, *s*).
OCorn = Old Cornish, the Celtic (Brittonic) language of Cornwall attested primarily from a Latin-Cornish glossary and place and personal names during the period 800–1200 AD.
OCS = Old Church Slavonic, the liturgical language of orthodox Slavs recorded from the ninth through the eleventh centuries. The language offers the closest parallels with reconstructed Proto-Slavic and it had an enduring impact on the subsequent development of those Slavic languages which were associated with the Eastern Orthodox Church.
OCzech = Old Czech, Czech from the thirteenth through the sixteenth centuries AD.
ODan = Old Danish, Danish from the beginning of the twelfth century to the end of the fourteenth century.
OE = Old English, the English language from the beginning of the eighth century to the middle of the twelfth century.
OFrench = Old French, French from the ninth century to the early sixteenth century.
OFris = Old Frisian, the West Germanic Frisian language from the beginning of the thirteenth century to the end of the fifteenth century.

OghamIr = Ogham Irish, the earliest inscriptional evidence of this Celtic language, recorded from about the fourth through the seventh centuries AD. The inscriptions, generally brief memorials, are in an archaic form of Irish that still retained its original case endings.

OHG = Old High German, the Germanic language of the southern German uplands (southern Germany, Switzerland, Austria) from about 750 to 1050; High German is marked by the Second (Germanic) Sound Shift where, for example, Proto-Germanic **p*, **t* and **k* > *pf*, *z*, and *ch* (*kk*) respectively.

OHit = Old Hittite, the Anatolian Hittite language from the early sixteenth century BC to the middle of the fifteenth century BC.

OInd = Old Indic, also known as Sanskrit, the oldest attested stage of the Indic branch of IE, from roughly 1500 BC to 600 BC.

OIr = Old Irish, the Celtic language attested in Ireland from *c.* 600 to 900 AD (from which New Irish, Scots Gaelic and Manx are all descended).

OIran = Old Iranian, that stage of Iranian represented by Old Persian and Avestan (up to about the beginning of the third century BC).

OLat = Old Latin, Latin from its first attestation in the sixth century BC through the second century BC.

OLith = Old Lithuanian, Lithuanian of the sixteenth through early eighteenth centuries AD.

ON = Old Norse (also known as Old Icelandic) from the middle of the twelfth century to the middle of the sixteenth century.

onomastic = pertaining to names, naming, or nomenclature.

onomatopoeic = pertaining to onomatopoeia, the formation of words by imitation of a sound (supposed to be) associated with the thing or activity, e.g., NE *meow*, *hush*, *sizzle*, *hoopoe*.

OPers = Old Persian, the Southwestern Iranian language that was the official language of the Achaemenid Persian Empire of the sixth and fifth centuries BC.

OPhryg = Old Phrygian, Phrygian from the eighth to the third centuries BC.

OPol = Old Polish, Polish from roughly the thirteenth through the fifteenth centuries AD.

OPrus = Old Prussian, the West Baltic language of the original Prussians known from the sixteenth to the eighteenth centuries.

optative = designating a verbal mood which expresses a wish or hope, e.g., OInd (indicative) *bíbharti* 'he carries' but (optative) *bibhr̥yā́t* 'he would carry, he hopes to carry'.

Ormuri = a Northwest Iranian language spoken in Afghanistan and Pakistan. Attested only in modern times.

Oroshori = Southeast Iranian language spoken in eastern Tadzhikistan, closely related to Roshani and Shughni. Attested only in modern times.

ORus = Old Russian (mixed with Old Church Slavonic) from the middle of the eleventh century to the end of the sixteenth century.

OSax = Old Saxon, i.e., Old Low German, from the middle of the ninth century to the middle of the thirteenth century.

Osc = Oscan, Italic language spoken down the spine of Italy and attested from about two hundred documents ranging from the fifth through first centuries BC. It was subsequently replaced by Latin.

Osco-Umbrian = major dialectal grouping of Italic comprising the Oscan and Umbrian languages.

OSerb = Old Serbian, Serbian (largely mixed with Serbian Church Slavonic) before the nineteenth century AD.

OSorb = Old Sorbian, Sorbian of the sixteenth and seventeenth centuries.

Oss = Ossetic, a conservative Northeast Iranian language spoken in the Russian and Georgian Caucasus, a descendant of the language of the Scythians. Attested only in modern times.

OSwed = Old Swedish from the early thirteenth century to the later fourteenth century.

OWels = the Celtic (Brittonic) language attested in Welsh documents from the ninth to twelfth centuries.

Paelignian = ancient Italic language spoken in east central Italy.

Palaeosiberian = designating a number of non-IE languages spoken in Siberia which are not apparently related to language families outside the area (nor apparently to one another) and which are assumed to represent the original inhabitants of Siberia.

Palaic = ancient Anatolian language of north central Anatolia.

palatalization = the making of a dorso-velar or apical sound fronter by moving the place of contact between tongue and roof of the mouth further forward, often accompanied by a change from stop to affricate pronunciation, e.g., Lat *centum* (*/kentum/*) 'hundred' > Italian *cento* (*/tšento/*).

palynological = referring to the study of pollen; the accumulation of the extremely durable pollen rain permits one to reconstruct past plant environments.

Pamphylian = an ancient Greek dialect spoken in Pamphylia in southwest Anatolia.

Panjabi = a modern Indic language spoken in northeastern Pakistan and in the Indian states of Punjab and Haryana; closely related to Hindi.

Parači = Eastern Iranian language spoken in the Hindu Kush near Kabul, Afghanistan.

paradigm = a list serving as an exemplification of the pattern of inflection for a noun, adjective, or verb, e.g., OInd *bhávāmi* 'I am', *bhávasi* 'you are', *bhávati* 'he/she is'.

parahistorical = relating to an illiterate population which has no historical texts of its own but which is mentioned in the histories of its neighbors, e.g., the Iron Age Celts of western Europe who are mentioned in Greek and Latin sources.

Parth = Parthian, a Northwest Iranian language spoken in what is now northwestern Iran and in Central Asia, and attested during the last three centuries of the pre-Christian Era, in the inscriptions of the Sassanian Empire and in Manichaean religious texts. See Pehlevi.

Pashto = a Southeast Iranian language spoken in Afghanistan where it is one of the country's two official languages (along with Persian) and in adjacent parts of Pakistan. Attested only in modern times.

passive = voice of the verb where the person or thing acted upon is the subject (e.g., in "the boy *was hit* by the ball"), opposed to the active ("the ball *hit* the boy").

past part. = past participle, an adjective derived from a verb expressing completed action, e.g., NE *broken*.

Pehlevi = (also Pahlavi, Parthian) a Middle Iranian language, a later form of Parthian (attested from the third to the tenth centuries AD) originally localized in northwestern Iran, also the writing system used to write the language (and used by other contemporary languages). See also Parthian.

Pelasgian = the language of the pre-Greek inhabitants of Greece, often supposed to be IE but of a different (and otherwise unknown) sort than Greek.

perf. = perfect (P)IE aspect (or manner of viewing an action) that expresses present relevance of a past action. e.g., PIE **u̯óide* 'he/she has seen' > 'he/she knows'.

Phoenician = ancient Semitic language, closely related to Hebrew, spoken in Phoenicia (= modern Lebanon) and, under the name Punic, in Carthage (= modern Tunisia) and its colonies.

Phryg = Phrygian, a poorly attested IE language once spoken in Phrygia (northwestern Anatolia) and last recorded in the first half of the first Christian millennium.

Picene = two ancient languages of east central Italy; Southern Picene was possibly an Italic language but the few attested texts of North Picene remain opaque.

PIE = Proto-Indo-European, the proto-language of the Indo-European language family.

pl. = plural, i.e., a grammatical form, either nominal or verbal, designating more than one, e.g. NE *dogs* as opposed to the singular *dog*.

pluperfect = a verbal tense in various IE languages, notably Latin, Greek, and Old Indic, corresponding in meaning to NE "he *had gone*" or "she *had worked* for years".

Pol = Polish, major Western Slavic language.

Polab. = Polabian, an extinct West Slavic language once spoken in what is now the eastern portion of the German state of Lower Saxony, along the lower Elbe (= Laba in Slavic, hence the name Po-*lab*-ian 'along the Elbe'). Known from records of the eighteenth century.

poss. = possessive, the English nominal case showing, *inter alia*, possession, e.g., *John's*, *house's* (cf. genitive).

postposition = the equivalent of a preposition but placed after the noun it governs rather than before, e.g., NHG *Bremen gegenüber* 'opposite Bremen'.

Praenestine = pertaining to ancient Praeneste (modern Palestrina) near Rome.

Prakrit = vernacular Indic languages (as opposed to the concurrently found, but no longer vernacular, Sanskrit or Old Indic) of the Middle Indic period.

Prasun = a Nūristāni language of the Prasun Valley of the central Hindu Kush in Afghanistan. Spoken between the two discontinuous sections of Kati.

present = either a (P)IE tense whose reference includes the present time (e.g., NE "water freezes at 32 degrees Fahrenheit" or "They're walking to school now") or a (P)IE aspect that expresses the on-going nature of the activity.

preverb = a particle or prefix placed in front of the verb root, e.g., OIr *do-beir* 'gives' < *do* 'to' + *beir* 'carries'.

productive = frequently or actively used in word formation, e.g., in NE plurals formed in *-s* are highly productive while those in *-en* (cf. *children, oxen*) are no longer productive.

progressive tense = in English, those tenses formed with *be* and the present participle (in *-ing*) indicating on-going activity, e.g., "they *were walking* the dog" or "we *are making* dinner [right now]".

proterodynamic = alternative name for proterokinetic.

proterokinetic = an accent pattern in PIE where the accent was on the root syllable in the nominative and accusative of the noun or the singular of the verb and on the syllable immediately following the root elsewhere, e.g., *dór-u* 'tree', gen. **dr-óu-s*.

prothetic = in Greek or Armenian, designating a word-initial vowel without a counterpart in other IE stocks, generally supposed to reflect a vocalized initial laryngeal, e.g., Grk ὄνομα 'name', Arm *anum* 'name' from PIE **$h_1$nómn̥*.

Proto-Anat = Proto-Anatolian, the reconstructed proto-language, itself a descendant of PIE, ancestral to Hittite, Palaic, Luvian, Lydian, Lycian, and some other scantily attested languages once spoken in western Anatolia.

Proto-Baltic = the reconstructed proto-language, descended from PIE, that is ancestral to both West Baltic, i.e., Old Prussian, and East Baltic, i.e., Latvian and Lithuanian. Particularly closely related within IE to Proto-Slavic.

Proto-Gmc = Proto-Germanic, the reconstructed proto-language, descended from PIE, that is ancestral to the various Germanic languages. The earliest Runic inscriptions dating from the third century AD are either a late form of Proto-Germanic or a form of northwest Germanic only little changed from Proto-Germanic.

Proto-Indo-Iranian = the reconstructed proto-language, itself a descendant of PIE, ancestral to Indic, Iranian, and Nūristāni.

Proto-Nūristāni = reconstructed proto-language, itself probably an immediate descendant of Proto-Indo-Iranian, ancestral to the several Nūristāni languages spoken in east central Afghanistan in the area of the Hindu Kush (Ashkun, Gawarbati, Prasun, Tregāmi, and Waigali), all of whom are first attested only in modern times.

Proto-Semitic = the reconstructed language ancestral to the Semitic languages.

Proto-Slavic = the reconstructed proto-language, descended from PIE, ancestral to the various Slavic languages (divided into East, West, and South Slavic). Within IE Proto-Slavic is very closely related to Proto-Baltic. Old Church Slavonic is a South Slavic language very little changed from Proto-Slavic.

psilosis = in Greek the substitution of the smooth breathing for the rough breathing, i.e., the loss of *h*, e.g., Attic = ἡμέρᾱ 'day' but East Ionic ἠμέρη.

psychopomp = one who escorts the deceased to the afterlife.

ptcpl. = participle.

Puhvel = Puhvel, Jaan (1984-) *Hittite Etymological Dictionary*. Berlin, New York, Amsterdam, Mouton.

Punjabi = alternate spelling of Panjabi.

QSem = *Quaderni semantica: Rivista Internazionale di Semantica Teorica e Applicata.*

Raetic = ancient IE language of Raetia (= southeastern Switzerland, the Austrian Vorarlberg and both Austrian and Italian Tyrol).

redup. = reduplication, the repetition of the initial sound or syllable in certain (P)IE noun and verb formations, e.g., PIE **dhi-dheh₁mi* 'I put' (< **dheh₁-*) or **kʷó-kʷl-os* 'wheel' (< **kʷel-*).

reflexive pronoun = a pronoun which refers back to the subject, e.g., "I saw *myself* in the mirror".

regressive assimilation = assimilation of one sound to another working backward from the second to the first, e.g., contemporary NE *tidbit* from older NE *titbit*.

resonant = an alternate name for sonorant.

rhotacism = the change of some other sound (usually *-z-*) into *-r-*, e.g., OLat *ausom* (/auzom/) 'gold' > Lat *aurum*.

RHR = *Revue de l'Histoire des Religions*.

Rom = Romanian, modern Romance language of Romania.

root noun = a (P)IE noun with no derivational suffixes.

Roshani = a Southeast Iranian language, closely related to Shughni, spoken in eastern Tadzhikistan and adjacent parts of Afghanistan. Attested only in modern times.

ruki-rule = the phonological change in Indo-Iranian and Balto-Slavic whereby PIE **-s-* became **-š-* (or the like) after PIE **-r-*, **-u-*, **-k-*, **-i-*.

Runic = the name of a non-Latin alphabet used by speakers of North and West Germanic for usually short inscriptions, in Scandinavia down to the Middle Ages. By extension the language of the earliest of these inscriptions, a variety of Germanic very close to Proto-Germanic itself, if, indeed, it is not a late form of Proto-Germanic.

Rus = Russian, major representative of the East Slavic languages.

RusCS = Russian variety of Church Slavonic, the liturgical language of Eastern Orthodox Slavs.

RV = (found in) the *Ṛgveda*, the oldest attested text in Old Indic.

Sabine = the Italic language, closely related to Oscan, anciently spoken in part of central Italy.

Saka = a designation for various Northeast Iranian tribal groups of the first millennium AD. Linguistically attested in Khotanese Saka and Tumshuq Saka in the southwestern portion of the Tarim Basin. No longer attested, possibly extinct by about 1000 AD.

Samoyed = The eastern branch of the Uralic family that occupies the region of northwestern Siberia; the western branch is Finno-Ugric.

sandhi = modification of the form of a word under the influence of a following or preceding sound, e.g., NE /dɪdjə/ for *did you*.

Sanglechi = a Southeast Iranian language spoken in northeastern Afghanistan. Attested only in modern times.

Sarikoli = a Southeast Iranian language spoken in the extreme southwest of Xinjiang (Chinese Turkestan) and closely related to Shughni. Attested only in modern times.

satəm = pertaining to a group of eastern IE languages (Indo-Iranian, Balto-Slavic, Greek, Armenian) where the PIE dorso-palatal stops have become sibilants and the labio-velars have lost their labialization and fallen together with the plain dorso-velars; named after the Avestan word for '100', *satəm*.

satəmization = process whereby PIE dorso-palatals become sibilants, e.g., PIE **k̑m̥tóm* 'hundred' > OInd *śatám* or Av *satəm*.

SC = Serbo-Croatian, a South Slavic language, one of the major languages of the former Yugoslavia; the language was standardized in the nineteenth century.

Schrader's *Reallexikon* = Schrader, O., and A. Nehring (1917-1923) *Reallexikon der indogermanischen Altertumskunde*. 2 vols. Berlin, Walter de Gruyter. Major compendium of Indo-European language and culture.

ScotsGael = modern Celtic language spoken in western Scotland, descended from Old Irish and closely related to the Modern Irish of Ireland.

Scyth = Scythian, the designation of various Iranian tribal groups, closely related to the Saka, from the eighth through third centuries BC in what is now the Ukraine. Their linguistic descendants are the Ossetes.

Second Function = the ideological construct proposed for Indo-European society that concerns the maintenance of offensive and defensive war; it is reflected in the social roles of the various Indo-European war gods

and is contrasted with the First Function (religious-juridical aspects of society) and a Third Function (fertility).
second person = denoting or indicating the person addressed in the speech act, e.g., NE *you*.
sememe = a unit of meaning.
Serb = Serbian, major South Slavic language, usually grouped with Croatian.
SerbCS = the Serbian variety of Church Slavonic, the liturgical language of the Eastern Orthodox Slavs.
sg. = singular.
Shughni = a Southeast Iranian language of eastern Tadzhikistan, closely related to Roshani, Oroshori, and Sarikoli. Only attested in modern times.
sibilant = any continuant or affricate consonant characterized by a hissing or hushing sound, e.g., NE *s*, *sh*.
Siever's Law = describes the change of sonorants to sequences of (corresponding) vowels and sonorants, in PIE and still in Old Indic, after a long syllable (one containing a long vowel or any vowel and two consonants), thus **CēCi̯o-* > **CēCii̯o-*. Named after Eduard Sievers (1850-1932) who discovered the law in 1878.
Sindhi = a modern Indic language spoken in southern Pakistan.
singulative = a nominal derivative indicating a single individual or thing, e.g., Wels *derwen* 'oaktree' (< *'a single oaktree'), historically a derivative of the plural *derw* 'oaktrees'.
Sino-Tibetan = a non-IE language family of Central Asia and the Far East including Chinese, Tibetan, Burman, etc.
Slov = Slovene, a South Slavic language spoken in Slovenia.
Sogd = Sogdian, a Northeast Iranian language spoken in what is now Uzbekistan and by merchant colonies in Chinese Central Asia, attested from the fourth through eighth centuries AD. Its modern descendant is Yaghnobi.
sonorant = a consonant produced with the vocal cords so placed that spontaneous voicing is possible, e.g., NE *m*, *n*, *l*, *r*, *y*, *w*.
spiritus asper = alternate name for the rough breathing (i.e., *h*-) in Greek.
stative = designating a verb expressing a state or condition.
stop = a consonant involving complete closure of the vocal tract, e.g., NE *p*, *t*, *k*.
strong-grade = in an ablauting paradigm having **-e-*, or **-o-*, or, less commonly, **-ē-* or **-ō-*.
subjunctive = designating a verbal mood which expresses a relation wished for or thought of by the speaker as existing between subject and predicate, frequently found in subordinate clauses, e.g. "If I *were* rich", "He insisted that I *be* here".
substantivization = the creation of a noun from an adjective or a verb, e.g., *poor* > *the poor*.
substratal = pertaining to elements in a language identified as being relics or borrowings from an earlier language now extinct but once spoken in the same location as the attested language, e.g., the presumed impact of Dravidian on the Indo-Aryan languages of northwest India.
suffix = an element attached at the end of a word to form an inflectional form of the word or a derivation of the word, e.g., NE *-s*, *-ed*, *-ing*, *-tion*, etc.
Sumerian = ancient language of southern Mesopotamia, written in the cuneiform script. It flourished from *c* 3100 BC until 2000 BC by which time it had been replaced as a chancery language by Akkadian but it continued to serve as a vehicle for liturgical literature.
Sumerogram = (in a Hittite text) a Sumerian word written instead of the corresponding Hittite word, presumably intended to be pronounced as the Hittite word (see also Akkadogram).
suppletive present = a present tense formation from a different root than found in other tenses (somewhat like the relationship of NE *go* to *went*).
Swed = Swedish, modern North Germanic language.
syncope = a shortening of a word by the omission of one or more syllables, e.g., NE (adj.) *separate*, pronounced *sep'rate*.
synecdoche = a figure of speech in which a more inclusive term is used for a less inclusive one or vice versa, e.g., *farm-hand* (for *farm laborer*) or "he sets a good *table*" (where *table* = *meal*).
Szem = Szemerényi, O. (1977) Studies in the kinship terminology of the Indo-European languages, with special reference to Indian, Iranian, Greek and Latin. *Acta Iranica (Varia 1977)* 7, 1-240.
tatpurusa = designating a kind of noun compound where the first member qualifies in some way the second, e.g., NE *red deer*.
tectal = designating a sound which involves the back of the tongue and any part of the roof of the mouth, e.g., dorso-palatal, dorso-velar, uvular.
telic = refers to events which have a natural goal or endpoint, e.g., "he *built* a house", "she *reached* the top of the mountain", as opposed to atelic where there is no built-in closure to the activity, e.g., "they *rode* a horse [around]".
thematic = nouns and verbs in PIE, and the various daughter stocks, whose stems end in *-e/o-*, e.g. **taur-o-s* 'bull; aurochs' as opposed to **g^{w}ou-s* 'cow', or **bher-e-ti* 'he carries' but **es-ti* 'he is'. In both nouns and verbs the thematic types were productive in PIE and its descendants whereas athematic types were increasingly less so.
thematicization = process whereby an athematic noun or verb has *-e/o-* added to it to make a thematic noun or verb, e.g., PIE **bhréh$_a$tēr*, but Proto-Slavic **bhrātr-o-s* 'brother'.
Thessalian = the classical Greek dialect of Thessaly.
Third Function = in Indo-European mythology, the Third Function relates to the deities and elements concerned with fertility and productivity in society. This contrasts with the First Function (religion and law), and Second (warfare). The social expression of the Third Function is seen to be herder-cultivators and female deities.
third person = denoting or indicating the person referred to in a speech act, i.e., in NE *he*, *she*, *it*, *they*.
Thracian = the little known IE language of ancient Thrace, i.e., modern Bulgaria, northeastern Greece and European Turkey.
Tischler = Johann Tischler (1977-) *Hethitisches etymologisches Glossar*. Innsbruck, Institut für Sprachwissenschaft der Universitat Innsbruck.
TochA = Tocharian A, an IE language spoken in the Turfan Depression and adjacent areas of Chinese Turkestan and closely related to Tocharian B spoken immediately to the west; it was extinct by the close of the first Christian millennium. Also called East Tocharian or Agnean.
TochB = Tocharian B, an IE language spoken along the northern rim of the Tarim Basin in Chinese Turkestan and closely related to Tocharian A spoken immediately to the east. Extinct sometime around the close of the first Christian millennium. Also called West Tocharian or Kuchean, the latter being the native designation for the language.
Torwali = Dardic language of the Swāt Valley in northwestern Pakistan.
Tosk = The southern of the two groups of Albanian dialects, as opposed to the northern Gheg. Standard Albanian is based on a variety of northern Tosk.
trans. = transitive, the designation of a verb which takes a direct object, e.g., "they saw a deer", as opposed to intransitive verbs which do not take direct objects, e.g., "they went".
transfunctional = in IE comparative mythology, a deity or human figure that encompasses all three of the canonical functions (religion and law, warfare, fertility) attributed to IE society by Georges Dumézil.
TRB = Funnel Necked Beaker culture (German *Trichterbecherkultur*), the Neolithic culture of the north European plain which extended from the Netherlands eastwards to Poland and the Ukraine.
Tregāmi = a Nūristāni language of three villages (*tre gām*) situated in a small valley west of the Kunar in Afghanistan.
tripartition = the division of IE society and ideology into three components or functions: religion/law, warfare and fertility.
Tsakonian = modern Greek dialect spoken in the eastern Peloponnesus which descended from the ancient Peloponnesian Doric.
Tūatha Dē Danann = major mythical race of Ireland who were important in both Irish cosmological and eschatological myths; in native tradition they were driven underground (into the fairy mounds) by the legendary ancestors of the Irish.
Turkic = a non-IE language family of central and southwestern Asia including Turkish, Uzbek, Kazakh, etc.
Udmurt = formerly known as Votyak, with Komi, this is a language of the Permic sub-group of the Finnic branch of the Uralic languages; it is spoken west of the river Kama in Russia in the Udmurtia Republic of Russia.

Ugarit = a Central Semitic language, closely related to Hebrew and Phoenician, which is found in documents from northern Syria during the period from the fifteenth to thirteenth centuries BC.

Ukr = Ukrainian, an East Slavic language spoken in the Ukraine.

Umb = Umbrian, ancient Italic language spoken in central Italy and most closely related to Oscan. Replaced by the somewhat more distantly related Latin in the early centuries of the Christian era.

unaspirated = describing a consonant not characterized by a marked flow of breath, e.g., NE *b* as opposed to *p*.

uncontracted = said of adjacent vowels when they do not merge into a single vowel, e.g., the *i* and *o* in NE *violate*.

unrounding = the loss of labialization or lip-rounding in a consonant, e.g., *k^w > *k*.

Urartian = the major non-IE language of the Kingdom of Urartu which lay south of the Caucasus between the Black and Caspian seas, i.e., the territory of the later Armenians. The language, attested from about the ninth through sixth centuries BC, appears to have descended from the same ancestor that provided the earlier Hurrian language of eastern Anatolia.

uvular = designating a sound involving the back part of the tongue and the uvula, e.g., initial consonant in NPers *qanat* 'underground irrigation channel'.

Vanir = in Old Norse tradition, the Vanir are a group of gods particularly associated with fertility and contrasted with the Æsir.

Vedic = language of the Vedas, the earliest attested form of Old Indic.

velar = a sound produced by the back of the tongue and the soft palate, e.g., NE *k* or *g* (as in *ghost*).

Venetic = an ancient IE language spoken in the Veneto and adjacent areas of northeastern Italy.

Veps = a Balto-Finnic language of the Uralic language family spoken in the vicinity of St Petersburg, Russia.

Verner's Law = a refinement of Grimm's Law, which recognizes that PIE voiceless stops become voiceless continuants when in initial position or immediately after the PIE accent but become voiced continuants (later voiced stops) when preceding the PIE accent (thus PIE **p*$\underline{h}_a$*tér* > Proto-Gmc **fader* but PIE **bhréh*$_a$*tēr* > Proto-Gmc **brōþer*). Named after Karl Verner (1846-1896) who discovered this law in 1876.

vn. = verbal noun, distinctive form of the verb found in the Celtic languages that resembles the infinitive, e.g., OIr *suide* '(a) sitting' beside *saidid* 'sits' or *dīthle* '(a) taking away' beside *do-tlen* 'takes away'.

voc. = vocative, the nominal case used in direct address.

vocalism = a vowel sound or articulation.

voiced = refers to a sound that is accompanied by vibration of the vocal cords, e.g., NE *b* or *z*, as opposed to the corresponding voiceless sounds *p* or *s* that are without any vibration of the vocal cords.

voiceless = refers to a sound that is not accompanied by any vibration of the vocal cords, NE *p* or *s*, as opposed to the corresponding voiced sounds *b* or *z* which are accompanied by vibration of the vocal cords.

vṛddhi = alternative name for the (P)IE lengthened grade; the word is derived from the Sanskrit grammarians of ancient India.

VulgLat = Vulgar Latin, the designation of the non-standard variety of spoken Latin, and opposed to the classical written variety of Latin, of the last century or so of the pre-Christian era and the first centuries of the Christian era that is the actual ancestor (rather than classical Latin) of the various Romance languages.

VW = A. J. Van Windekens (1976) *Le Tokharien confronté avec les autres langues indo-européennes, Vol. I: La phonétique et le vocabulaire*. Louvain, Centre Internationale de Dialectologie Générale.

Waigali = a Nūristāni language of the Waigal Valley of Afghanistan. Alternatively known as Kalaśa.

Wakhi = a southeastern Iranian language spoken in extreme northeastern Afghanistan and adjacent portions of Tadzhikistan.

Wanji = extinct Eastern Iranian language once spoken to the north of Shughni in eastern Tadzhikistan.

Wat = citations from Watkins, C. (1985) *The American Heritage Dictionary of Indo-European Roots*. Boston, Houghton Mifflin.

weak grade = in an ablauting paradigm not having *-*e*-, *-*o*-, *-*ē*- or *-*ō*- (= zero-grade).

Weekes = D. M. Weekes (1985) *Hittite Vocabulary: An Anatolian Appendix to Buck's 'Dictionary of Selected Synonyms in the Principal Indo-European Languages'*. Ann Arbor, University Microfilms.

Wels = modern Welsh, a Celtic language of the Britonnic branch of Celtic, most closely related to Cornish and Breton, spoken in Wales and attested from the latter half of the first Christian millennium to the present. Forms cited as Wels are in Modern Welsh, the language attested since c 1500 AD.

West Gmc. = West Germanic, one of three branches of the Germanic family (the others are North Germanic and East Germanic) comprising English, Frisian, Low German, Dutch, High German, and Yiddish.

Winter's Law = the process in Balto-Slavic whereby PIE short vowels were lengthened before original voiced stops (*b*, *d*, *g*, etc.) but not before voiced aspirates (*bh*, *dh*, *gh*, etc.). Named after Werner Winter whose account of the phenomena appeared in 1978.

Winter-Kortlandt Law = alternative name for Winter's Law with the added specification that the PIE voiced stops were actually ejectives and that **b*' "decomposed" in Balto-Slavic into **Hb* where the laryngeal-like first element combined with a preceding vowel to create a long vowel.

Wordick = citations from Wordick, F. (1970) *A generative-extensionist analysis of the Proto-Indo-European kinship system with a phonological and semantic reconstruction of the terms*. Ann Arbor, University Microfilms.

WRus = West Russian or Belorussian.

Xanty = alternative spelling for Khanty (also known as Ostyak), a Finno-Ugric language spoken in east central European Russia.

Yaghnobi = Southeastern Iranian language spoken by no more than a couple of thousand people in Tadzhikistan, the sole descendant of ancient Sogdian.

Yazghulami = a southeastern Iranian language spoken in northeastern Afghanistan and adjacent portions of Tadzhikistan, closely related to Shughni and the other Pamir Iranian languages.

Yidgha = a Southeast Iranian language spoken in northeastern Pakistan. Attested only in modern times.

Zaraθuštra = Greek Zoroaster, major Iranian religious leader and author of the *Gāthās*, the earliest portions of the *Avesta*. While traditional dates place Zaraθuštra at c 628–551 BC, the language of the *Avesta* is often considered so archaic that its earliest portions and author should date before 1000 BC.

zero-grade = in an ablauting paradigm, having no vowel (= weak-grade).

Zoroastrian Pahlevi = the Middle Persian dialect used in Zoroastrian texts from the third to seventh centuries AD.

Žem = Žemaitis, the designation of Lithuanian dialects found in the western portion of Lithuania.

PHONETIC DEFINITIONS

a a low, unrounded, vowel, usually central but may be fronter or backer than central as well; in Indic a mid central unrounded vowel.

ā a long, low, unrounded central vowel.

á a stressed *a*; in Lithuanian a long *a* with falling pitch.

ã in Lithuanian a long *a* with rising pitch; in Latvian a long *a* with sustained (or rising) pitch; in Lycian and Lydian a nasalized *a*.

à in Lithuanian a short *a* with falling pitch; in Latvian an *a* with falling pitch.

ã in Lithuanian a long low central vowel with rising pitch; in Latvian an *a* with sustained (or rising) pitch; in Lycian and Lydian a nasalized *a*.

â in Latvian a long *a* with broken (or laryngealized) pitch.

ą in Polish a mid back rounded nasal vowel; in Lithuanian a long *a* (formerly nasalized); in Avestan a mid low unrounded nasal vowel.

æ a low front unrounded vowel; in Old Norse a long low front unrounded vowel.

ä in Germanic a low front unrounded vowel; in Tocharian a mid central unrounded vowel [= ə]; in Khotanese a high central unrounded vowel.

ă in Romanian a mid central unrounded vowel [= ə].

aí in Gothic a lower mid front unrounded vowel [= ɛ].

aú in Gothic a lower mid back rounded vowel [= ɔ].

b a voiced bilabial stop; in Hittite, Palaic, and Lydian a voiceless bilabial stop [= *p*] (in Lydian voiced after a nasal); in Lycian a voiced bilabial continuant.

bh a voiced aspirated bilabial stop; in Middle and New Irish a voiced labio-dental continuant [= *v*].

c in Italic (Latin, Oscan, Umbrian, and Paelignian), Celtic (Irish and Welsh), and Old English a voiceless dorso-velar stop [= *k*]; in Old Indic a voiceless, apico-alveo-palatal affricate [= *č*]; in Russian, Serbo-Croatian, Albanian, Armenian and Iranian, a voiceless apico-dental affricate [= *ts*].

c' in Armenian an aspirated voiceless apico-dental affricate.

ch in Welsh, German, Polish, and Czech a voiceless dorso-velar continuant [= *x*]; in Indic an aspirated voiceless apico-alveo-palatal affricate.

ç in Albanian a voiceless alveo-palatal affricate [= *č*]; in Old Persian probably a voiceless apico-dental affricate [= *ts*].

ć in Polish a voiceless corono-alveo-palatal affricate.

č a voiceless apico-alveo-palatal affricate.

č' an aspirated voiceless apico-alveo-palatal affricate.

cz in Polish a voiceless alveo-palatal affricate.

d a voiced apico-dental or apico-alveolar stop; in Hittite, Palaic, and Luvian a voiceless apico-dental or apico-alveolar stop [= *t*]; in Lycian and Lydian a voiced apico-dental or apico-alveolar continuant [= *δ*].

dh a voiced aspirated apico-dental or apico-alveolar stop; in Middle Irish and Albanian a voiced apico-dental continuant [= *δ*]; in New Irish a voiced dorso-velar continuant [= *γ*].

dd in Welsh a voiced apico-dental continuant [= *δ*].

ḍ a voiced apico-retroflex stop.

ḍh an aspirated voiced apico-retroflex stop.

δ a voiced apico-dental continuant

ð a voiced apico-dental continuant [= **δ**].

e a mid front unrounded vowel; in Lithuanian a low front unrounded vowel.

ē a long mid front unrounded vowel.

ė in Lithuanian a long mid front vowel.

é a stressed *e*; in Lithuanian a long low front vowel with falling pitch.

è in Lithuanian a short low front vowel with a falling pitch; in Latvian an *e* with falling pitch.

ẽ in Lithuanian a long low front vowel with rising pitch; in Latvian an *e* with sustained (or rising) pitch; in Lycian and Lydian a nasalized *e*.

ê in Latvian an *e* with broken (or laryngealized) pitch.

ę in Polish a mid front unrounded nasal vowel.

ë in Albanian a mid central unrounded vowel [= ə]; in Russian a stressed mid back rounded vowel with palatalization of a preceding consonant.

ě in Old Church Slavonic a long low to mid unrounded front vowel.

ə a mid central unrounded vowel.

ei in Gothic and Umbrian a long high front unrounded vowel [= *ī*].

f a voiceless labio-dental continuant; in Welsh a voiced labio-dental continuant [= *v*], except in word final position where it is voiceless.

ff in Welsh a voiceless labio-dental continuant [= *f*].

g a voiced dorso-velar stop; in Hittite, Palaic, and Luvian a voiceless dorso-velar stop [= *k*]; in Gothic, when before a *k* or another *g*, a voiced dorso-velar nasal stop; in Lycian a voiced dorso-velar continuant [= *γ*].

gh a voiced aspirated dorso-velar stop; in Middle and New Irish a voiced dorso-velar continuant [= *γ*].

gj in Albanian a voiced dorso-palatal stop.

ĝ in PIE a voiced dorso-palatal stop.
ĝh in PIE an aspirated voiced dorso-palatal stop.
g^w a voiced labialized dorso-velar stop.
g^wh an aspirated voiced labialized dorso-velar stop.
γ a voiced dorso-velar continuant; in Iranian a voiced dorso-uvular continuant.
γ̌ in Iranian a voiced front dorso-velar continuant.
h a voiceless laryngeal continuant; in Proto-Germanic, Old High German, English and Gothic (when before a consonant) Polish, Slovenian, and Serbo-Croatian a voiceless dorso-velar continuant [= *x*]; in Old Indic a voiced laryngeal continuant.
ḫ in Old Indic a voiceless laryngeal continuant.
ƕ in Gothic a voiceless labialized dorso-velar continuant.
h_1 in PIE a "laryngeal" that has no affect on an adjacent vowel.
h_2 in PIE a "laryngeal" that changes an adjacent *-e-* to *-a-*.
h_3 in PIE a "laryngeal" that changes an adjacent *-e-* to *-o-*.
h_4 in PIE a "laryngeal" that changes an adjacent *-e-* to *-a-*.
h_a in PIE a "laryngeal" that changes an adjacent *-e-* to *-a-* (either h_2 or h_4).
h_x in PIE an indeterminant "laryngeal".
i a high front unrounded vowel; in Polish also a mark of palatalization for the preceding consonant; in Irish also a mark of palatalization on the preceding or following consonant.
ī a long high front unrounded vowel.
í a stressed vowel *i*; in Lithuanian a long *i* with falling pitch; in Oscan and Umbrian a lower high front vowel [= *ɪ*].
ì in Lithuanian a short *i* with falling pitch; in Latvian an *i* with falling pitch.
ĩ in Lithuanian a short *i* with rising pitch; in Latvian an *i* with sustained (or rising) pitch.
î in Latvian an *i* with broken (or laryngealized) pitch; in Romanian a high central unrounded vowel.
į in Lithuanian a long *i* (formerly a nasalized *i*).
ĭ in Old Church Slavonic a short high front vowel; in Russian a mark of palatalization of the preceding consonant.
ɪ a lower high front unrounded vowel (as in NE *pit*).
i̯ a voiced palatal approximant [= *y*].
j a voiced palatal approximant [= *y*]; in Armenian and Iranian a voiced apico-dental affricate [= *dz*]; in Middle and New English and Indic a voiced alveo-palatal affricate.
ǰ a voiced alveo-palatal affricate.
jh an aspirated voiced alveo-palatal affricate.
k a voiceless dorso-velar stop; in Umbrian indifferently voiced or voiceless; in Mycenaean Greek indifferent as to voicing or aspiration; in Lydian voiced after nasals; in Lycian a voiceless front dorso-velar (or dorso-palatal?) stop (voiced after a nasal).
kh a voiceless aspirated dorso-velar stop; in Russian a voiceless dorso-velar continuant.
k' in Armenian an aspirated voiceless dorso-velar stop.
ķ in Latvian a palatalized *k*.
k̂ in PIE a voiceless dorso-palatal stop.
k^w a voiceless labialized dorso-velar stop.
l a voiced apico-dental or apico-alveolar lateral approximant.
ll in Albanian a voiced apico-alveolar velarized lateral approximant; in Welsh a voiceless apico-alveolar lateral continuant.
ly in Tocharian a voiced alveo-palatal lateral approximant.
ļ in Latvian a palatalized *l*.
lj in Serbo-Croatian a palatalized *l*.
ł in Armenian a voiced apico-alveolar velarized lateral approximant; in Polish a voiced bilabial approximant (formerly a voiced apico-alveolar velarized lateral approximant).
l̥ a vocalic *l*.
m a voiced bilabial nasal stop.
m̥ a vocalic *m*.
ṃ in Tocharian a voiced nasal stop, usually apico-dental (except when before a labial when it too is a labial); in Old Indic a nasal continuant of some sort or the indication of nasalization on the preceding vowel; in later Indic a voiced nasal stop agreeing in place of articulation with the following consonant.
m̃ in Lycian an unreleased voiced bilabial nasal stop.
n a voiced apico-dental or apico-alveolar nasal stop.
nj in Serbo-Croatian, Slovenian, and Albanian a voiced apico-alveopalatal nasal stop.
ň in Czech a voiced apico-alveo-palatal nasal stop.
ņ in Latvian a voiced apico-alveo-palatal nasal stop.
ṇ a voiced apico-retroflex nasal stop.
ŋ a voiced dorso-velar nasal stop.
ṅ in Indic and Tocharian a voiced dorso-velar nasal stop.
n̥ a vocalic *n*.
ñ in Lycian an unreleased voiced apico-dental nasal stop.
o a mid back rounded vowel.
ō a long mid back rounded vowel.
ó a stressed *o*; in Lithuanian a long *o* with falling pitch; in Polish a long high back vowel [= *ū*].
ò in Lithuanian a short o with falling pitch; in Latvian an *o* with falling pitch.
õ in Lithuanian a long mid back rounded vowel with rising pitch; in Latvian an *u* with sustained (or rising) pitch.
ô in Latvian an *o* with broken (or laryngealized) pitch.
ø a mid front rounded vowel.
œ in Old Norse a long mid front rounded vowel.
ǫ a low back rounded vowel.
p a voiceless bilabial stop; in Mycenaean Greek indifferent as to voicing or aspiration; in Lycian voiced after a nasal.
ph an aspirated voiceless bilabial stop; in Welsh a labio-dental voiceless continuant.
p' in Armenian an aspirated voiceless bilabial stop.
q in Albanian a voiceless dorso-palatal stop; in Gothic and Lydian a rounded voiceless dorso-velar stop [= k^w]; in Mycenaean Greek a rounded dorso-velar stop (indifferent as to voicing or aspiration); in Latin, Oscan, and Umbrian a variant of *k* used before *u*; in Lycian a rounded (?) dorso-(mid-) velar stop.
r a voiced apico-alveolar tap (or sometimes a trill).
rr in Albanian and Spanish a voiced apico-alveolar trill.
ř in Czech and probably also in Umbrian a voiced apico-alveolar fricative trill.
ŗ in Latvian a palatalized *r*.
ṙ in Armenian a voiced apico-alveolar trill.
ṛ an apico-retroflex flap or trill
rz in Polish a voiced apico-alveopalatal continuant [= *ž*].

rh in Welsh a voiceless apico-alveolar trill.

r̥ a vocalic *r*.

s a voiceless apico-alveolar groove continuant; in Lydian a voiceless apico-alveo-palatal groove continuant [= *š*].

sh a voiceless apico-alveopalatal groove continuant [= *š*].

ś a voiceless corono-alveopalatal continuant; in Lydian a voiceless apico-alveolar groove continuant [= *s*].

š a voiceless apico-alveo-palatal groove continuant.

ṣ a voiceless apico-retroflex groove continuant.

t a voiceless apico-dental or apico-alveolar stop; in Umbrian indifferently voiced or voiceless; in Mycenaean Greek indifferently aspirated or unaspirated; in Lydian and Lycian voiced after a nasal.

th an aspirated voiceless apico-dental or apico-alveolar stop; in Old and Middle Irish, Welsh, Middle and New English, and Albanian a voiceless apico-dental continuant [= ***θ***].

tʻ in Armenian an aspirated voiceless apico-dental stop.

ṭ a voiceless apico-retroflex stop.

ṭh an aspirated voiceless apico-retroflex stop.

θ a voiceless apico-dental continuant.

þ a voiceless apico-dental continuant [= ***θ***].

τ in Lydian a voiceless apico-alveolar affricate [= *ts*].

u a high back rounded vowel; in Welsh a high back unrounded vowel.

ū a long high back rounded vowel.

ů in Czech a long high back rounded vowel; in Iranian a back rounded vowel midway between *u* and *o*.

ú a stressed *u*; in Lithuanian a long *u* with falling pitch; in Latvian an *u* with falling pitch; in Oscan and Umbrian a mid back rounded vowel [= *o*].

ù in Lithuanian a short *u* with falling pitch.

ũ in Lithuanian a a long high back rounded vowel with rising pitch; in Latvian an *u* with sustained (or rising) pitch.

ų in Lithuanian a long *u* (formerly nasalized *u*).

ŭ in Old Church Slavonic a short high back rounded vowel.

u̯ a voiced bilabial approximant [= *w*].

v a voiced labio-dental continuant.

vh in Venetic a voiceless labio-dental continuant [= *f*].

w a voiced bilabial approximant; in German and Dutch a voiced labio-dental continuant [= *v*]; in Welsh, when between consonants, a high back rounded vowel (otherwise = *u̯*).

x a voiceless dorso-velar continuant; in Iranian a voiceless dorso-uvular continuant; in Latin, Old Norse and English the cluster *ks*; in Albanian a voiced apico-dental affricate [= *dz*]; in Lydian a voiceless back dorso-velar (dorso-uvular?) stop.

y in Latin, Old English, German, and Albanian a high front rounded vowel; in Russian and Welsh a high back unrounded vowel (also in Welsh a mid central unrounded vowel [= ə]); in Polish a lower high front unrounded vowel [= *ı*]; in Czech a high front unrounded vowel [= *i*]; in Lithuanian a long high front vowel [= *ī*]; in Armenian, Anatolian, Iranian, Indic, and Tocharian a voiced palatal approximant.

z a voiced apico-alveolar groove continuant; in Oscan, Umbrian, German, Hittite, Palaic, Luvian, and Lycian a voiceless apico-alveolar affricate [= *ts*].

zh a voiced apico-alveo-palatal groove continuant [= *ž*].

ź in Polish a voiced corono-alveo-palatal groove continuant.

ž a voiced apico-alveo-palatal groove continuant.

ż in Polish a voiced apico-alveo-palatal groove continuant [= *rz*]

ALPHABETICAL LIST OF ENTRIES

Hornet
Horse
Horse Goddess
Hostile
House
Howl
Hum
Humble
Hunger
Hunt
Hurry

Ice
Illyrian Language
Impeller
In
Indo-European Homeland
Indo-European Languages
Indo-Iranian Languages
Injure
Insects
Inspiration
Insult
Interjections
Intoxicator
Iron
Italic Languages

Jackdaw
Jastorf Culture
Jaw
Jay
Joint
Juice
Jump
Junazite
Juniper

Karasuk Culture
Kelteminar Culture
Kemi Oba Culture
Khvalynsk Culture
Kick
Kidney
King
King and Virgin Theme
Kinship
Kinsman
Kiss
Kite
Knee
Knife
Knot[1] (tie)
Knot[2] (in wood)
Know
Kolochin Culture
Komarov Culture
Kurgan Tradition
Kuro-Araxes Culture

Lack
Lake
Large
La Tène Culture
Laugh
Law
Lead[1] (verb)
Lead[2] (metal)
Leader
Leaf
Lean
Learn
Leave
Leech
Left
Leg
Lengyel Culture
Leopard
Less
Libation
Lick
Lie[1] (recline)
Lie[2] (deceive)
Life
Lift
Light[1] (shine)
Light[2] (of weight)
Lightning
Limb
Linden
Line
Lineage
Linear Ware Culture
Lion
Lip
Litter
Live
Liver
Loins
Long
Louse
Love
Love Goddess
Lower Mikhaylovka Group
Lung
Lynx

Macedonian Language
Magic
Magpie
Make
Male
Mammals
Man
Manu
Maple
Marlik
Marriage
Marrow
Marsh
Marten
Master, Mistress
Maykop Culture
Measure
Meat
Medical God
Medicine
Meet
Mehrgarh
Melt
Messapic Language
Metal
Middle
Middle Dnieper Culture
Milk
Millet
Mistletoe
Mix
Moan
Monkey
Moon
Moss
Mother
Mother-in-law
Mouse
Mouth
Move
Mulberry
Murmur
Muscle

Nail
Namazga
Name
Narrow
Nave
Navel
Near
Neck
Necklace
Nephew
Nest
Net
Nettle
New
Niece
Night
Nod
Noise
Nose
Not
Novodanilovka Group
Novotitorovka Culture
Now
Number
Numerals
Nut

Oak
Oar
Oath
Oats
Old
Old Man
Once
Opinion
Or
Order
Orphan
Other
Otter
Out
Over
Owl
Own

Pain
Paint
Painted Grey Ware Culture
Panther
Pastoral God
Pea
Peak
Penkov Culture
People
Perceive
Perch
Persuade
Phrygian Language
Physical Anthropology
Picene Languages
Pierce
Pig
Pin
Pine
Pit-Comb Ware Culture
Place
Plank
Plants
Play
Please
Plow
Poet
Poetry
Point
Poison
Polecat
Poltavka Culture
Poppy
Porridge
Portion
Post
Pot
Potapovka Culture
Pour
Powerful
Prague Culture
Praise
Pray
Prepare

THEMATIC LIST OF ENTRIES

Activities
Anatomy and Natural Functions
Animals
Archaeological Sites and Cultures
Architecture and Dwellings
Clothing and Textiles
Emotions
Food and Drink
Languages and Linguistics
Law
Marriage and Kinship
Material Culture
Mind
Miscellaneous Grammatical Categories
Motion and Transport
Physical World
Possession, Occupation and Commerce
Quantity and Number
Religion and Comparative Mythology
Sense Perception
Social and Political Relations
Spatial Relations
Speech
Time
Vegetation and Agriculture
Warfare

Activities

Able
Accomplish
Adhere [Adhere; Smear]
Anoint
Attempt
Bathe [Clean]
Be
Bend
Bind
Blow
Braid [Bind]
Break [Break; Tear^2]
Build [Work]
Burrow [Dig]
Burst [Break]
Carve [Cut]
Compress [Press]
Crush
Cut
Dig
Do [Make]
Enjoy [Use]
Extend
Extinguish
Fasten [Bind]
Fit [Accomplish]
Flay [Tear^2]
Fold [Bend]
Glue [Adhere]
Grind [Crush]
Handle [Prepare]
Hang
Help
Hew [Strike]
Join [Bind]
Make
Peel [Tear^2]
Pierce
Poke [Prick]
Prepare [Make; Prepare]
Press
Prick
Project
Pull [Extend]
Reach [Extend]
Roll [Turn]
Rub [Rub; Sharpen]
Scatter
Scrape [Rub; Scrape]
Scratch [Cut; Scrape; Tear^2]
Seek [Accomplish]
Shake
Sharpen
Shave [Scrape]
Smear
Smear [Anoint]
Sow [Scatter]
Split [Cut; Split]
Spread
Sprinkle [Spread]
Squeeze [Press]
Stab [Strike]
Stick [Adhere; Smear]
Sting [Pierce]
Stir
Stretch [Extend]
Strew [Scatter; Spread]
Strike [Strike; Tear^2]
Subdue [Tame]
Swell [Blow; Swell]
Swing [Bend]
Tame
Tear^2 (Off)
Throw
Thrust
Tremble [Shake]
Turn
Twist [Turn, Twist]
Use
Wash [Clean]
Wear out [Crush]
Whet [Sharpen]
Wind^2
Wipe
Work
Wound [Strike]
Wrap [Wind^2]

Anatomy and Natural Functions

Body Parts
Abdomen
Abomasum [Abdomen]
Anatomy
Anus [Anus; Sexual Organs]
Arm
Back[1]
Beard [Hair]
Bladder
Blood
Body
Bone
Brain [Brain; Marrow]
Breast
Bristle [Hair]
Buttocks
Chin [Chin; Hair]
Ear
Elbow
Entrails
Eye
Eyebrow [Eye]
Face
Feather [Wing]
Finger [Hand]
Fist [Hand]
Fleece [Hair]
Foot
Forearm [Arm, Elbow]
Forehead
Gall
Gland
Gullet
Gums [Mouth]
Hair
Hand
Haunch
Head
Heart
Heel
Hide [Hide[2]; Skin]
Hip [Haunch]
Hock
Intestines [Entrails]
Jaw [Chin; Jaw]
Joint
Kidney
Knee
Leather [Hide[2]]
Leg
Limb
Lip [Lip; Mouth]
Liver
Loins
Lung
Mane [Hair]
Marrow [Brain; Marrow]
Mouth
Muscle
Nail
Navel [Nave; Navel]
Neck
Nipple [Breast]
Nose
Omasum [Abdomen]
Palate [Mouth]
Palm [Hand]
Paunch [Abdomen]
Paw [Foot]
Pelt [Hide[2]; Skin]
Pelt [Skin]
Penis [Sexual Organs]
Rib [Breast]
Rumen [Abdomen]
Rump [Buttocks]
Scrotum [Sexual Organs]
Sexual Organs
Shin [Leg]
Shoulder
Shoulder [Arm]
Sinew [Tendon]
Skin
Skull [Head]
Spleen
Stomach [Abdomen]
Tail
Teat [Breast]
Tendon
Testicle [Sexual Organs]
Thread [Hair]
Throat [Gullet]
Thumb [Hand]
Tongue
Tooth
Udder [Breast]
Uterus
Vulva [Sexual Organs]
Wing
Womb [Abdomen; Uterus]
Wool

Functions and Diseases
Abscess [Skin Disease]
Affliction [Pain]
Bald
Bare [Bald]
Barren
Bear[2]
Beget [Bear[2]]
Belch
Bite
Blind
Breathe
Callosity [Skin Disease]
Castrate
Copulates [Sexual Organs]
Corpse [Death]
Cough
Crooked [Defect]
Cross-eyed [Blind]
Cure [Heal]
Deaf
Death
Defecate [Excrement]
Defect
Die [Death]
Dumb [Deaf]
Dung [Excrement]
Excrement
Exhausted [Tired]
Fart
Foul [Rot]
Fresh
Grow
Heal
Healthy
Hernia
Ill [Sick]
Infertile [Barren]
Lame [Defect]
Leprosy [Skin Disease]
Life
Limp [Defect]
Live
Manure [Excrement]
Mature [Grow]
Medicine
Naked [Bald]
One-eyed [Blind]
Pain
Physical Anthropology
Pimple [Skin Disease]
Powerful [Powerful; Strength]
Purulent [Rot]
Pus
Putrification [Pus]
Rot
Scabby [Skin Disease]
Sexual Organs
Skin Disease
Sleepy [Tired]
Sneeze [Breathe; Cough]
Snort [Breathe]
Spew
Spit [Spew]
Strength [Force; Strength]
Strong
Suffer [Pain]
Sweat
Tear[1]
Tetter [Skin Disease]
Tired
Ulcer [Skin Disease]
Urinate
Vigor [Strength]
Vitality [Strength]
Vomit [Spew]
Waken [Show]
Wart [Skin Disease]
Weak
Whole [Healthy]
Wound
Yawn

Animals

Mammals
Animal
Ape [Monkey]
Ass
Aurochs [Cow]
Badger
Bear[1]
Beaver
Bison [Cow]
Boar [Pig]
Buck [Goat]
Bull [Cow]
Cat
Cow
Creature [Animal; Wolf]
Deer
Dog
Donkey [Ass]
Dormouse [Mouse]
Elephant
Elk [Elk; Deer]
Ermine [Weasel]
Ewe [Sheep]
Fleece [Sheep]

Fox
Goat
Hare
Hedgehog
Hoof
Horn
Hornless [Horn]
Horse
Ivory [Elephant]
Lamb [Sheep]
Leopard [Leopard; Panther]
Lion [Lion; Panther]
Livestock [Animal]
Lynx
Mammals
Mare [Horse]
Marten
Monkey
Mouse
Offspring [Animal]
Onager [Ass]
Otter
Ox [Cow]
Panther
Pig
Polecat
Quadruped [Animal]
Ram [Sheep]
Roedeer [Deer]
Sheep
Shrew
Squirrel
Stag [Deer]
Stoat [Weasel]
Weasel
Wild Cat [Cat; Marten]
Wolf
Yearling [Animal]

Birds
Bird
Birds
Blackbird
Cock
Coot
Crane
Crow
Cuckoo
Dove
Duck
Eagle
Egg
Falcon
Finch
Gamebird
Goose
Gull
Hawk [Falcon]
Hen
Heron
Hoopoe
Jackdaw
Jay
Kite
Magpie
Owl
Quail
Raven [Crow]
Sparrow
Starling
Stork
Swan
Teal [Duck]
Thrush
Vulture
Woodpecker

Fish
Asp [Carp]
Carp
Eel
Fish
Fish-eggs [Fish]
Minnow [Fish]
Perch
Pikeperch [Carp]
Salmon
Sheatfish
Sturgeon
Tench
Trout [Trout; Salmon]
Wels [Sheatfish]

Reptiles and Amphibians
Dragon
Frog
Frog-spawn [Fish]
Snake
Tortoise

Insects, Etc
Ant
Bee
Beetle [Insects]
Butterfly
Crab [Shellfish]
Crayfish [Shellfish]
Drone [Bee]
Flea
Fly[1]
Gnat [Fly[1]; Insects]
Hornet
Insect [Worm]
Insect stinger [Insects]
Insects
Leech
Louse
Maggot [Worm]
Midge [Fly[1]]
Mosquito [Fly[1]]
Mussel [Shellfish]
Nit [Louse]
Shellfish
Slug [Snail]
Snail
Tick [Louse]
Wasp
Weevil [Insects]
Worm

Archaeological Sites and Cultures

Abashevo Culture
Afanasevo Culture
Andronovo Culture
Baalberge Group
Baden Culture
Beaker Culture
Bishkent Culture
BMAC
Bodrogkeresztúr Culture
Bug-Dniester Culture
Catacomb Culture
Çatal Hüyük
Cemetery H Culture
Cernavoda Culture
Chernoles Culture
Chernyakovo Culture
Chust Culture
Copper Hoard Culture
Corded Ware Culture
Coţofeni Culture
Dereivka
Djeitun Culture
Dnieper-Donets Culture
Este Culture
Ezero Culture
Fatyanovo-Balanovo Culture
Gaudo Culture
Glasinac Culture
Globular Amphora Culture
Golasecca Culture
Hallstatt Culture
Harappan Culture
Hasanlu
Jastorf Culture
Junazite
Karasuk Culture
Kelteminar Culture
Kemi Oba Culture
Khvalynsk Culture
Kolochin Culture
Komarov Culture
Kurgan Tradition
Kuro-Araxes Culture
La Tène Culture
Lengyel Culture
Linear Ware Culture
Lower Mikhaylovka Group
Marlik
Maykop Culture
Mehrgarh
Middle Dnieper Culture
Namazga
Novodanilovka Group
Novotitorovka Culture
Painted Gray Ware Culture
Penkov Culture
Pit-Comb Ware Culture
Poltavka Culture
Potapovka Culture
Prague Culture
Przeworsk Culture
Qäwrighul Culture
Remedello Culture
Rinaldone Culture
Rössen Culture
Samara Culture
Sintashta
Sredny Stog Culture
Srubna Culture
Suvorovo Culture
Swāt Culture
Tărtăria Tablets
Tazabagyab Culture
Terramare Culture
Tiszapolgár Culture
TRB Culture
Tripolye Culture
Troy
Trzciniec Culture
Urnfield Culture
Usatovo Culture
Vakhsh Culture
Varna
Villanovan Culture
Yamna Culture
Yaz Culture
Zarubintsy Culture

Architecture and Dwellings

Clothing and Textiles

Emotions

Food and Drink

Languages and Linguistics

Law

Marriage and Kinship

Material Culture

Adze [Ax]
Arrow [Bow and Arrow]
Auger
Awl
Ax
Axle
Bag
Bar [Hook]
Basin
Basket
Boat
Bolt [Hook]
Bow and Arrow
Bowl [Pot]
Bronze [Metal]
Caldron [Pot]
Canoe [Boat]
Case
Club
Container [Pot]
Copper [Metal]
Cudgel [Club]
Cup [Pot]
Dagger [Sword]
Dish [Pot]
Gold
Handle
Harrow [Plow]
Hoe [Plow]
Hook
Iron
Jug [Pot]
Knife [Knife; Sword]
Lead[2]
Metal
Nave
Net
Oar
Pin
Plate [Pot]
Plow
Plowshare [Plow]
Pole [Shaft]
Pot
Quern
Rake [Plow]
Razor
Reins
Ring [Pin; Ring]
Shaft
Shield
Sickle
Sieve
Silver
Sling
Spear
Spit [Spear]
Sword
Tin
Tool
Torch
Vessel [Pot]
Wagon
Wax
Wheel
Whetstone
Yoke

Mind

Awake
Belief
Believe [Belief]
Consider [Think]
Dream [Dream; Sleep]
Feel [Think]
Forget
Know
Learn
Opinion
Remember
Sleep
Sleepy [Sleep]
Stupid
Teach
Think
Thought [Think]
Tired
Trust [Belief]

Miscellaneous Grammatical Categories

And
Demonstrative Pronouns [Pronouns]
Interjections
Interrogative Pronouns [Pronouns]
Not
Or
Personal Pronouns [Pronouns]
Possessive Pronouns [Pronouns]
Pronouns
Thus

Motion and Transport

Attain
Axle
Bear [Carry]
Boat
Canoe [Boat]
Carry
Come
Crawl
Dip [Dive]
Dive
Drip [Flow]
Drive
Fall
Find One's Way
Flee
Float [Swim]
Flotsam
Flow
Fly[2]
Follow [Follow; Hunt]
Glide
Go [Go; Step]
Hunt
Hurry
Jump
Kick
Lead[1]
Leave
Lift
Move [Flow; Hurry; Move]
Nave
Oar
Ooze [Flow]
Pass [Go]
Passage [Road]
Pole [Shaft]
Pour
Pull [Glide; Pull]
Push
Raise [Lift]
Reach [Attain]
Reins
Return Home
Ride [Carry; Ride]
Road
Row
Run
Set in Motion

Shaft
Slide
Slip [Slide]
Sprinkle
Step [Go; Step]
Surpass [Go]
Swim
Thrust [Push]
Track [Hunt; Road; Track]
Travel [Go]
Wade
Wagon
Walk [Step]
Wander
Wash [Swim]
Way [Road; Way]
Well up [Flow]
Wheel
Yoke

Physical World

Ash[2]
Blaze [Burn]
Burn
Charcoal
Cistern [Lake]
Clay
Cloud
Dew
Dirt
Drizzle [Cloud]
Dust [Dirt; Sand]
Earth
Estuary [River]
Fire [Fire; Charcoal]
Foam
Frost [Ice]
Glow [Burn]
Hail [Ice]
Hill
Hoarfrost [Ice]
Ice
Icicle [Ice]
Kindle [Burn]
Lake
Lightning
Marsh
Melt
Mist [Cloud]
Moon
Mountain [Hill]
Mud [Marsh]
Pebble [Stone]
Pond [Lake]
Pool [Lake]
Rain
River
River bank [Shore]
Roast [Burn]
Rock [Stone]
Sand
Sea
Shore
Singe [Burn]
Sky [Cloud]
Smoke
Smoulder [Burn]
Snow
Spring
Star
Stone
Sun
Swamp [Marsh]
Thunder
Valley
Water [Lake; Marsh; Water]
Wave [Spring; Wave]
Wind[1]
World

Possession, Occupation and Commerce

Amass [Gather]
Apportioner [Fortune]
Barter [Exchange]
Benefit [Reward]
Bestow [Give]
Booty
Burden
Catch [Take]
Compensation
Cowherd [Herdsman]
Destroy
Exchange
Find
Fortune
Gather
Give
Goods [Wealth]
Grasp [Take]
Guard [Feed]
Harm
Herdsman
Hold
Lack
Own
Pay [Exchange]
Pluck [Take]
Portion
Possess [Hold]
Possessions [Wealth]
Prize [Reward]
Prosper
Protect [Feed; Protect]
Purchase [Exchange]
Release
Restitution [Compensation]
Reward
Rich
Seek
Seize [Take]
Sell [Exchange]
Snatch [Take]
Steal
Success [Fortune]
Take
Wealth

Quantity and Number

Abundant
Alone
Any [Some]
Both [Numerals]
Bundle [Heap]
Compute [Number]
Count [Number]
Empty
Fat [Abundant]
Few
Fill
First [Numerals]
Flock [Herd]
Full
Half
Heap
Herd
Less
Little [Few]
Measure
Much [Abundant]
Number
Numerals
Once
Other
Portion
Rich [Abundant]
Same
Series [Herd]
Single [Alone]
Some
Thick [Abundant]
Twin
Weigh [Measure]

Religion and Comparative Mythology

Ancestor God
Binder-God
Centaur
Comparative Mythology
Consecrate [Sacred]
Consort Goddess
Cosmogony
Cosmology
Craft God
Creator
Curse [Pray]
Dawn Goddess
Death Beliefs
Divine Twins
Earth Goddess
Elf
Eschatology
Fire Cult
Fire in Water
God
Goddesses
Goddesses (misc.)
Hell-Hound
High-one
Holy [Sacred]
Horse Goddess
Horse Sacrifice [Horse]
Impeller
Inspiration
Intoxicator
King and Virgin Theme
Libation
Love Goddess
Magic
Manu
Medical God
Pastoral God
Phantom [Spirit]
Pray
Priest
River Goddess
Sacred
Sacred Drink
Sacrifice
Sea God
Seer [Poet]
Sky Daughter [God]
Sky God [God]
Smith God
Son's Death
Sorcery [Magic]
Spell [Magic]
Spirit
Stelae
Sun Goddess
Taboo [Sacred]
Threefold Death
Three-headed Monster
Thunder God
Transfunctional Goddess
Trickster
Underworld
War God
War of the Foundation
Wild (God)
Worship

Sense Perception

Appear
Beautiful
Bitter
Black
Blue [Green]
Bright
Brown [Black; Brown]
Clean
Clear [Bright]
Close (the eyes)
Cold
Color
Dark
Defile [Dirt]
Difficult [Heavy]
Dirty [Dirt]
Dry
Enjoy [Taste]
Firm
Glance [See]
Gray
Green
Hear
Heat
Heavy
Honey
Hot [Heat]
Light[1]
Light[2]
Long
Madder [Green]
Mark [Paint]
Observe [See]
Obvious [Visible]
Pain
Paint
Pale [White]
Perceive
Point out [Show]
Pure
Red
Rough
See
Shade [Shadow]
Shadow
Shine
Show
Sign
Silver [Silver; White]
Slimy
Slippery [Slimy]
Smell
Smooth
Soft
Soil [Dirt]
Sour [Bitter]
Speckled
Spongy
Spotted [Speckled]
Sticky [Slimy]
Stiff
Striped [Speckled]
Suffer [Pain]
Sweet
Taste
Touch
Variegated [Speckled]
Visible
Warm [Heat]
Watch
Wet
White
Yellow

Social and Political Relations

Accustom
Age Set
Allow [Release]
Assembly
Brotherhood
Companion
Country
Craft
Craftsman [Craft]
Crime
Custom
Enemy [Enemy; Guest]
Follower [Companion]
Freeman
Friend
Guest
King
Land [Country]
Leader [King; Leader]
Meet
People
Residence
Rule
Servant
Social Organization
Stranger [Guest]
Troop [Companion]
Village

Spatial Relations

About [Through]
Above [Across]
Across
Adpreps
After [Back²]
Against
Ahead [Before]
Among [Middle]
Apart
Around
Arrange [Put in Order]
Asunder [Apart]
Away
Back²
Before
Behind [Back; Behind]
Between
Beyond
Border
Broad
Circle
Compact [Shrink]
Conceal [Cover]
Corner [Curve]
Cover
Crooked
Curve
Deep
Direction
Divide
Down
East
Far
Flank [Side]
Flat
Further
Hide¹ (conceal)
High
In
Into [Between; In]
Large
Lean
Left
Lie¹
Limit [Border]
Line [Border; Line]
Low [Under]
Middle
Narrow
Near
On [Near]
Out
Over [Over; Through]
Peak
Place [Place; Put; Set]
Point
Pointed [Sharp]
Position [Place]
Put [Put; Set]
Put in Order
Quiet
Remain
Remains
Rest [Quiet]
Right
Row [Line]
Separate [Divide]
Series [Line]
Set
Sharp
Short
Side
Sit
Slack
Slant
Small
Space
Stand
Surround [Cover]
Thick [Shrink; Thick]
Thin
Through [Across; Through]
To
Toward [To]
Under
Up
Upright [High]
Wide [Broad]
With
Without
Wrap [Cover]
Wrinkle [Shrink]
Yonder [Beyond]

Speech

Animal Cry
Argue [Contend]
Ask [Ask; Pray]
Beg [Ask]
Assert [Contend]
Babble
Bark [Animal Cry; Bark²]
Bird Cry
Bleat
Cackle [Laugh]
Call
Caw [Bird Cry]
Complain
Contend
Crack [Sound]
Crackle [Noise]
Cry [Animal Cry; Call]
Curse [Pray]
Declare [Speak]
Drone [Noise]
Express [Speak]
Grieve
Groan [Sigh]
Growl [Bark²; Noise]
Grunt
Hiss [Noise]
Hoot [Bird Cry]
Howl [Bark²; Bird Cry; Howl; Noise; Roar]
Hum
Hush [Silent]
Insult
Invite [Call]
Invoke [Call]
Lament [Grieve]
Laugh
Lie²
Low [Animal Cry]
Moan
Mourn [Grieve]
Murmur
Mutter [Noise]
Name
Nod
Noise
Persuade
Poet
Poetry
Praise
Pray
Quarrel [Contend]
Rattle [Noise]
Recite [Speak]
Resound [Sound]
Revile [Insult]
Roar
Rumble [Noise]
Say [Speak]
Scream [Bird Cry]
Shout [Call]
Shout [Noise]
Sigh
Silent
Sing
Smile [Laugh]
Snore
Song [Sing]
Sound
Speak [Call; Praise; Speak]
Sputter [Noise]
Stammer
Swear
Threaten
Thunder
Voice [Sound; Voice]
Yelp [Bark²]

Time

Already [Now]
Autumn [Seasons]
Before
Begin
Dawn
Day
Early
Evening
Fast
Morning [Early]
New
Night
Now
Old
Quick [Fast]
Seasons
Soon
Spring [Seasons]
Summer [Seasons]
Time
Today
Winter [Seasons]
Year
Yesterday
Young

Vegetation and Agriculture

Trees
Acorn [Oak]
Alder
Apple
Ash[1]
Aspen
Bark[1]
Bast [Bark[1]]
Beech
Berry
Birch
Birdlime [Mistletoe]
Blackthorn [Sloetree]
Branch [Branch; Fork]
Cherry
Conifer [Pine]
Elm
Fir
Forest [Tree]
Fork
Fruit [Berry]
Grove
Hawthorn
Hazel
Hornbeam
Juniper
Knot[2]
Leaf
Linden
Maple
Mistletoe
Mulberry
Needle [Branch]
Nut
Oak
Pine
Pitch [Sap]
Poplar [Aspen, Poplar]
Resin [Sap]
Root [Branch]
Sap
Sloetree
Sprout [Leaf]
Thorn [Branch]
Tree
Trees
Willow
Wood [Tree]
Yew

Agriculture and Plants
Agriculture
Angelica
Awn [Grain]
Barley [Barley; Grain]
Bean
Bran [Chaff]
Bristle [Grain]
Cabbage [Vegetables]
Carrot [Vegetables]
Chaff
Chick-pea
Ear of Grain [Grain]
Esculent root [Vegetables]
Fallow [Field]
Field
Flax
Flower
Fruit [Grain]
Furrow
Garden [Field]
Garlic [Vegetables]
Grain [Grain; Millet]
Grass
Greens [Vegetables]
Grind
Harvest
Hellebore
Hemp
Henbane
Leaf
Meadow [Field]
Millet
Moss
Mould [Moss]
Mow [Harvest]
Nettle
Oats
Pasture [Field]
Pea
Plants
Pluck [Harvest]
Poppy
Reed
Rush [Reed]
Rye
Seed
Shoot
Sow
Sprout [Leaf]
Stalk
Stem [Stalk]
Straw [Stalk]
Thorn
Thresh
Turnip [Vegetables]
Vegetables
Vine [Wine]
Wheat
Wine
Winnow

Warfare

Age Set
Army
Arrow [Bow and Arrow]
Ax
Booty
Bow and Arrow
Brotherhood
Captive
Club
Companion
Conquer
Cudgel [Club]
Dagger [Sword]
Destroy
Enemy
Fight
Fighter [Army]
Force
Fort
Harm
Hostile
Injure
Knife
Leader
Overcome [Conquer]
People
Shield
Sling
Spear
Strike
Sword
Troop [Companion]
Warband [Army]
Warfare
War God
Warriors

Encyclopedia of

INDO-EUROPEAN CULTURE

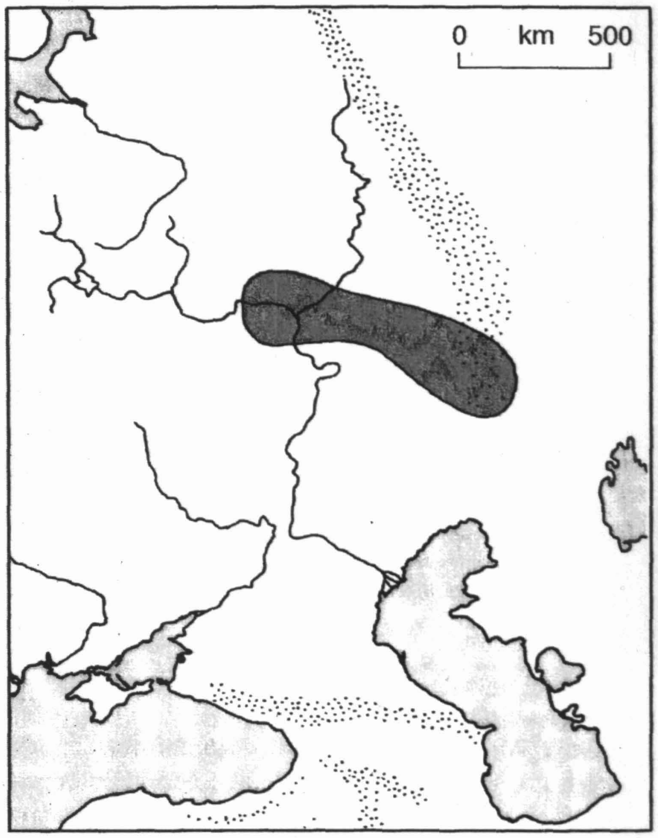
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ABASHEVO CULTURE

The Abashevo culture, named from a cemetery in the Chuvash Republic, is a Late Bronze Age culture (*c* seventeenth–sixteenth centuries BC) that spans the forest-steppe from the area of Kazan to the southern Urals. It is divided into three variants: Don-Volga, middle Volga and a southern Ural variant that extends eastwards to the river Tobol. More than two hundred settlements are known consisting of a series of rectangular dwellings with large floor areas of about 150 to 200 m^2.

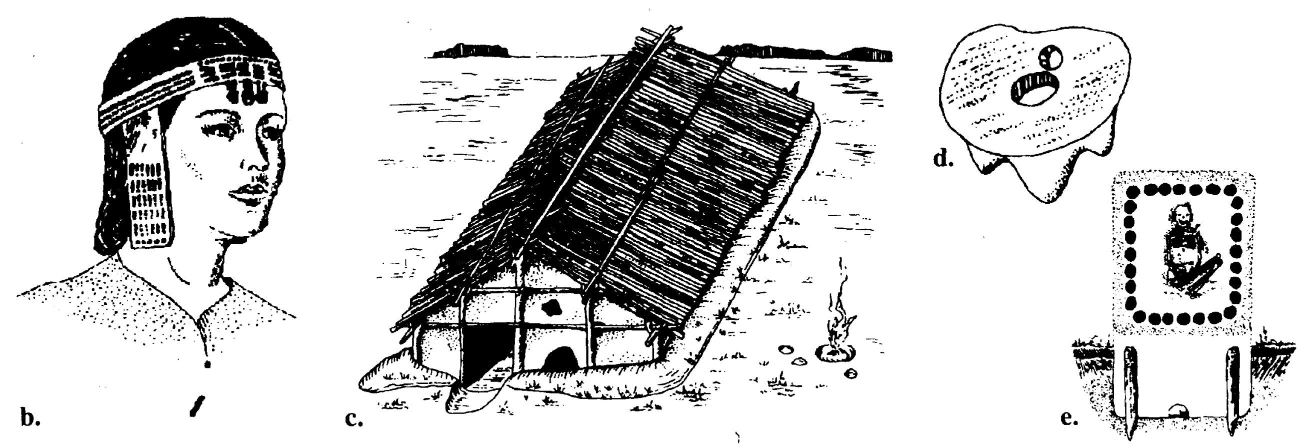
Settlements have left remains indicative of a mixed agricultural economy. Metal sickles and stone grinders suggest agriculture while the animal remains are almost exclusively those of domestic animals. Cattle predominate, then sheep/goat, while pig and horse are found in smaller amounts. Cheek-pieces, typical of neighboring steppe cultures (and also of the Mycenaeans), reveal the use of the horse and (probably) chariot.

Burial was inhumation on the back with the legs flexed. Several burials might be placed either under a kurgan or inserted into an earlier kurgan of the region and, in general, the Abashevo culture continues the earlier mortuary tradition of the Yamna culture. Some graves show evidence of a birch-bark floor and a timber construction might form the walls and roof of the burial chamber. In some instances there was either a stone kerb or a series of wooden uprights set about the circumference of the kurgan. The graves are poor with respect to artifacts: usually a pot made with crushed-shell temper (another typical feature of the steppe cultures), animal bones, and rarely metal objects. On those few occasions where metal objects have been uncovered, they have included crucibles for smelting copper and moulds for casting. Such burials are normally attributed to bronzesmiths. One of the



Abashevo a. Distribution of the Abashevo culture in the Volga-Ural region.

more spectacular mortuary finds is the kurgan at Pepkino which yielded the collective burial of twenty-eight men who had apparently died violent deaths (at least some by ax-blows



Abashevo b. Woman's headdress that may have served as an ethnic marker; c. Reconstructed house (*c* 10 x 4 m) from Beregovskiye; d. Cheek-piece for horse-bridle from Utyëvka; e. Abashevo burial from Pikshiki.

to the head). Other cemeteries have produced evidence of burials lacking skulls.

The Abashevo culture was an important center of metallurgy as the southern Urals provided a major source of local copper. High in arsenic, this provided a form of bronze. Axes, spearheads and sickles are typical of the Abashevo range of implements while metal appliqués, associated with women's headdresses, are regarded as a distinctive ethnic marker. In addition, silver-bearing ores were also exploited and silver ornaments were manufactured.

The Abashevo culture was later assimilated into the territory of the Srubna culture which replaced it. The ethno-linguistic identity of the Abashevo culture can only be a subject of speculation. On the one hand, it appears to reflect a northern penetration of the earlier steppe cultures which, during the mid-second millennium BC, would have presumably been Iranian and hence it offers one of a number of convenient contact zones between the Indo-European and Uralic families where loanwords passed northwards. On the other hand, it also may be seen as an extension of the Fatyanovo-Balanovo phenomenon to the southeast.

See also FATYANOVO-BALANOVO CULTURE; SRUBNA CULTURE; YAMNA CULTURE. [J.P.M.]

ABDOMEN

udero- 'abdomen, stomach'. [*IEW* 1104–1105 (**udero-*); Wat 72 (**udero-*); Buck 4.46; BK 496 (**wat^y-/*wət^y-*)]. Lat *uterus* 'abdomen; womb', Grk *ὕδερος* 'dropsy' (< *'swollen stomach'), Av *udara-* 'stomach', OInd *udára-* 'stomach'. With new full-grades: OPrus *weders* 'belly', Lith *vė̃daras* 'intestines; abdomen', Latv *vêders* 'stomach', Grk (Hesychius) *ὅδερος* (< **wóderos*) 'stomach'. From **ud* 'out, up' + **-ero-* a suffix showing contrast; thus originally 'the outer or superficial abdomen' (cf. **h₁en-teros* 'entrails'). The wide distribution would seem to be a good guarantee of PIE status.

ud^{s}tero/eh$_a$- 'abdomen, stomach'. [*IEW* 1104–1105 (**udero-*); Wat 72 (**udero-*); BK 496 (**wat^y-/*wət^y-*)]. Grk *ὑστέρᾱ* 'womb', (Hesychius) *ὕστρος* 'stomach', TochB *wästarye* (< **ustr̥ió-*) '± liver'. A variant of **udero-* with **-tero* rather than **-ero-*.

u̯enVst(r)- '(ab)omasum'. [*IEW* 1105 (**udero-*)]. Lat *venter* 'belly' (if crossed with *uterus*), NIce *vinstr* 'omasum (third stomach of ruminants)' and Norw (dial.) *vinstr* 'abomasum (fourth stomach of ruminants)', OInd *vaniṣṭhú-* 'part of entrails of sacrificial animal'; with new vowel-grades: OHG *wan(a)st* ~ *wenist* 'belly, omasum', Grk *ἤνυστρον* 'abomasum'. Though subject to phonological deformation, a strong candidate for PIE status.

reumn- (***roumn-***?) 'rumen'. [*IEW* 873 (**reu-smen-*)]. Lat *rūmen* 'gullet, rumen (first stomach of ruminants)', Baluchi *rōmast* (< **raumaþ-ta-*) 'rumination', OInd *romantha-* 'rumination'. The geographical spread strongly suggests PIE status.

pant- 'stomach, paunch'. [cf. *IEW* 789 (**pank-*)]. Lat *pantex* 'belly, paunch, guts', Hit ^{UZU}*panduha-* 'stomach'. Though not widely preserved, the geographical distribution and presence in Anatolian are a strong argument for PIE status.

g^{w}étus 'stomach, womb' (in derivatives also more generally 'innards, entrails'). [*IEW* 481 (**g^{u}et-*); Wat 25 (**g^{w}et-*)]. ON *kviðr* 'belly, womb', OE *cwiþ* 'belly, womb', OHG *quiti* 'vulva', Goth *qiþus* 'belly'; Lat *botulus* (from Osco-Umbrian?) 'intestines, sausage', MHG *kutel* 'intestines', (< **g^{w}otu-lo-*), TochA *kāts* 'belly, womb', TochB *kātso* 'belly, womb' (< **g^{w}ōt(u̯)i̯eh$_a$-n-*). Not derived from any attested verbal root in PIE; at least regionally present in late PIE.

Within the sphere of Indo-Iranian cosmology where the universe, both physical and social, is partitioned from a primeval body, the belly is homologous with the earth and socially an alloform (along with the genitals) for the class of commoners, the Third Function.

The emphasis on the omasum, abomasum and rumen of

ruminants may have been sustained by their importance in a number of activities. In various societies they serve as containers, e.g., the storage of offal to make sausages or haggis, containers for holding butter (as in Tibet) or manufacturing rennet for cheese processing; the rumen can also be used as a cooking vessel. The stomachs of ruminants also play a prominent role in blood sacrifices among various early IE groups as the abundance of fatty tissue provided an exceptional blaze.

See also ANATOMY; BODY; COSMOGONY; ENTRAILS. [D.Q.A.]

ABLE

__*magh-__ 'be able'. [_IEW_ 695 (_*magh-_); Wat 38 (_*magh-_); Buck 9.95]. ON _mega_ 'be able', OE _magan_ 'be able' (> NE _may_), OHG _magan_ 'be able', Goth _magan_ 'be able', Lith _magėti_ 'to please, be agreeable', OCS _mogǫ_ 'am able', Grk μῆχος (Doric μᾶχος) (with lengthened-grade) 'means, expedient', μηχανή 'machine' (borrowed > Lat _māchina_, borrowed > NE _machine_), Arm _mart'ank'_ (< _*mag-thra-_) 'means'. Possibly related is OInd _maghá-_ 'gift, abundance'; the form may, however, be better related to OInd _maṃh-_ 'give'. The forms Av _moγu-_ 'magician', OPers _magu-_ 'magician', OInd _maga-_ 'magician' probably are derived from this root ('magician' < 'one who has power'); the etymology, however, is uncertain. Forms with the meaning 'great', e.g., Lith _mãgulas_, Grk μεγάλη, OInd _mahá-_ have been cited in connection with this root, but the relationship is very dubious. In spite of the uncertain status of the Indo-Iranian data, the reasonably broad distribution of the forms suggests that the word is solidly reconstructible to PIE.

__*gal-__ 'be physically able'. [_IEW_ 351 (_*gal-_ ~ _*ghal-_); Wat 18 (_*gal-_); Buck 9.95]. OIr _gal_ 'valor, fighting, Wels _gallu_ 'is able', Lith _galiù_ 'am able'. Possibly related is OCS _golěmo_ 'much'. The limited geographical spread suggests a late, northwestern dialectal status.

See also ATTAIN. [M.N.]

ABUNDANT

__*bhénĝhus__ (gen. __*bhn̥ĝhóus__) 'thick, abundant'. [_IEW_ 127–128 (_*bhenĝh-_); GI 684, 746–747 (_*b^{h}enĝ^h-_); Wat 7 (_*bhengh-_); BK 28 (_*bun-/*bon-_)]. Lat _pinguis_ (with not well understood _p-_ rather than expected _*f-_) 'fat', ON _bingr_ 'heap', OHG _bungo_ 'lump', Latv _biezs_ 'thick', Grk παχύς (< _*phakhu-_ < _**bhaghu-_) 'thick, compact', Hit _panku-_ 'total, entire, general', _pankur-_ (< _*bhenĝhu̯r̥_), 'milk; clan', _pankar-_ (< _*bhn̥ĝhróm_) 'en masse', OInd _bahú-_ 'much, many; numerous, compact; abounding in, rich in'. The Hittite words are sometimes taken (e.g., by GI 746–747) to be related to _*penk^{W}e_ 'five' in the latter's putative meaning '± totality, i.e., a full hand'. That the latter meaning is nowhere attested save in the presumed Hittite derivative and that Hit _panku-_ agrees morphologically with Grk παχύς and OInd _bahú-_, both favor the equation given here. From _*bhenĝh-_ 'draw together, be thick', attested as a verb only in OInd _báṃhate_ 'increases', _báṃhayate_ 'strengthens'. Widespread and old in IE.

__*pélh$_1$us__ (gen. __*pl̥h$_1$óus__) 'much'. [_IEW_ 800 (_*pélu_); GI 177 (_*p^{h}elH-/p^{h}l̥H-_); Wat 48 (_*pelə-_); Buck 13.15; BK 54 (_*p[^{h}]al-/*p[^{h}]əl-_)]. OIr _il_ 'much', ON _fjǫl-_ 'much', OE _fela_ 'much', OHG _filu_ 'much', Goth _filu_ 'much, very', Grk πολύς 'much', Av _pouru-_ 'much', OInd _purú-_ 'much'. Cf. the comparative _*pleh$_1$i̯os-_ in OIr _līa_ (_DIL il_) 'more', Lat _plūs_ 'more', ON _fleiri_ 'more', Av _frāyah-_ 'more', OInd _prāyá-_ 'mostly, commonly' and the derived _*pl̥h$_1$u-k^{w}id_ 'abundantly' in OInd _purūcid_ 'abundantly' and, somewhat rebuilt, Grk πολλάκις 'abundantly'. Cf. OInd _píparti_ 'fills' and PIE _*pl̥h$_1$nós_ 'full'. Widespread and old in IE.

__*g^{W}honós__ '± thick, sufficient'. [_IEW_ 491 (_*g^{u}hono-s_); Wat 25 (_*g^{W}hen-_); Buck 13.18; BK 313 (_*g^{W}an-/*g^{W}ən-_)]. Lith _ganà_ 'enough', Latv _gana_ 'enough', OCS _goněti_ 'suffice', perhaps Grk εὐθενέω 'flourish', εὐθενής 'richly' (otherwise possibly from _*h$_1$su-dhh$_1$-énos_ 'well-placed'), perhaps Arm _y-ogn_ 'much', OPers _āganiš_ 'full', OInd _ghaná-_ 'thick'. If all these words belong together, we have evidence for a word that was widespread and old in IE.

__*menegh-__ 'abundant'. [_IEW_ 730 (_*men(e)gh-_); Wat 41–42 (_*menegh-_); Buck 13.15]. OIr _meinic(c)_ 'abundant, frequent', Wels _mynych_ 'frequent', ON _mengi_ 'multitude', _mangr_ 'many', OE _menigu_ 'multitude', _manig_ 'many' (> NE _many_), OHG _menigī_ 'crowd', _manag_ 'many', Goth _managei_ 'people', _manags_ 'sufficient, many', _managjan_ 'make abundant', OCS _mŭnogŭ_ 'abundant', _mŭnožiti_ 'increase, make to be more', Rus _mnog_ 'abundant', perhaps OInd _maghá-_ 'gift, reward, wealth', _máṃhate_ 'give'. At least a word of the west and center of the IE world; if the Old Indic words belong here then it would be a stronger candidate for PIE status.

__*spḫ$_1$rós__ '± fat, rich'. [_IEW_ 983 (_*sphə-ro-_); Wat 63 (_*spē-_); Buck 16.63]. Lat _prosper_ 'lucky', ON _sparr_ 'sparing', OE _spær_ 'sparing' (> NE _spare_), OHG _spar_ 'sparing', OCS _sporŭ_ 'rich', OInd _sphirá-_ (_-ph-_ rather than the expected _*-p-_ must be because of the affective meaning of the word) 'fat'. Sufficiently widespread to be a likely PIE term. From _*speh$_1$(i)-_ 'flourish'. Cf. Lat _spēs_ 'hope', OE _spōwan_ 'thrive', OHG _spuon_ 'thrive, prosper', Lith _spéti_ 'predict, foretell; be on time', Latv _spēt_ 'be able', OCS _spěti_ 'thrive, prosper', Hit _ispāi-_ 'get filled, be sated', OInd _spháyate_ 'grows fat, increases'.

See also HEAP; WEALTH. [D.Q.A.]

ACCOMPLISH

__*sen(h$_a$)-__ 'seek, accomplish' (pres. __*sénh$_a$ti__, __*sn̥-néu-ti__). [_IEW_ 906 (_*sen-_); GI 170 (_*senH-_)]. OIr _do-seinn_ 'pursues, strives', _con-snī_ 'fights (for something), wins', Wels _cynyddaf_ 'overrun, win', Grk ἄνῡμι ~ ἀνύω 'accomplish, get (something, somewhere)', Hit _sanhzi_ 'seeks, plans, demands', Av _han-_ 'gain, obtain', OInd _sanóti_ 'wins, gets; grants'. Widely enough attested to guarantee PIE status.

__*kob-__ 'fit, suit, accomplish'. [_IEW_ 610 (_*kob-_); Wat 32 (_*kob-_)]. OIr _cob_ 'victory', ON _happ_ 'chance, luck', OE _gehæp_ (adj.) 'fit', OCS _kobĭ_ 'divination'. A west IE dialectal form, probably nominal rather than verbal.

See also ATTAIN; FORTUNE. [M.N.; D.Q.A.]

ACCUSTOM

*$h_1$euk- 'become accustomed'. [IEW 347 (*euk-); Wat 18 (*euk-); GI 97–98]. OIr do-ucci (DIL do-beir) 'understands', Goth bi-ūhts 'used to', Lith jùnkstu 'become accustomed to', ūkis 'farm', OCS učiti 'teach', vyknǫti 'become accustomed', Arm usanim 'learn, be used to', OInd úcyati 'is accustomed to', ókas- 'abode, home, dwelling'. Widespread and clearly of PIE date.

See also LEARN. [D.Q.A.]

ACORN see OAK

ACROSS

*terh_2- 'across, through, above'. [IEW 1075 (*ter-); Wat 70 (*terə-); GI 367 (*t^herH-); BK 149 (*t^y[^{h}]ar-/*t^y[^{h}]ər-)]. OIr tar (< *tares) 'across, above', Lat trāns 'across', OE þurh (> NE through and thorough) ~ þerh 'through', OHG durh 'through', Goth þaírh 'through' (Gmc < *terh_2-k^we ~ tr̥h_2-k^we), Av tarō 'over, to', OInd tirás 'over, across, apart' (Indo-Iranian, like Celtic, < *tr̥$h_2$és). Old in IE.

See also ADPREPS; THROUGH. [D.Q.A.]

ADHERE

*kol- 'glue'. [IEW 612 (*kol(ĕ)i̯-)]. MLG/MDutch hêlen (< *haljan) 'to stick', Grk κόλλα (< *kol-i̯a) 'glue'. To be rejected is RusCS klějĭ 'glue', Rus klej 'glue', if from *kŭlě/ĭ-jĭ (< *kl̥h_x-i-?). A word of the west and center of the IE world.

??*ghais- 'stick'. [IEW 410 (*ghais-); Wat 20 (*ghais-)]. Lat haereō 'hang, stick'. Lith gaištù 'shrink, hesitate' has been connected with the Latin form but the etymology is very uncertain and, as Ernout-Meillet note, Latin forms with the diphthong -ae- are generally without IE etymology.

See also SMEAR. [M.N.]

ADPREPS

The primary use of the adverb/prepositions (adpreps) in PIE was to make spatial relationships more precise, by specifying 'above', 'below', etc., and simultaneously to relate a noun to the verb of the sentence. The adverb/preposition and noun together formed an adverbial phrase as in, "he ran *behind the tree*". Or the adprep might be used alone, "he ran *ahead*". Finally, the adpreps were syntactically connected with the verb also, often with aspectual meaning, e.g., to show completion of an action, "he ate it all *up*". One might note that English preserves much of the PIE uses of the adpreps. These adpreps could appear before or after their attendant nouns or verbs. When located before a verb there was a strong tendency in various IE stocks for the adprep + verb combination to fuse into a single unit, e.g., NE *understand*. It is often the case that a PIE adprep survives in a particular stock only as a verbal prefix. Many, perhaps most, of the PIE adpreps were originally case forms of nouns, e.g., *$h_2$enti 'in front' < *$h_2$ent- 'face', though more often than not the noun itself does not survive outside of these frozen forms. With some frequency they show an extension *-(t)er-, originally suggesting an (implied) contrast with its semantic opposite. Thus we have *$h_1$en 'in' but *$h_1$en-ter 'within' (as opposed to 'outside').

See also ACROSS; AGAINST; APART; AROUND; AWAY; BACK; BEFORE; BEHIND; BETWEEN; BEYOND; IN; NEAR; OUT; OVER; THROUGH; TO; UNDER; UP; WITH; WITHOUT. [D.Q.A.]

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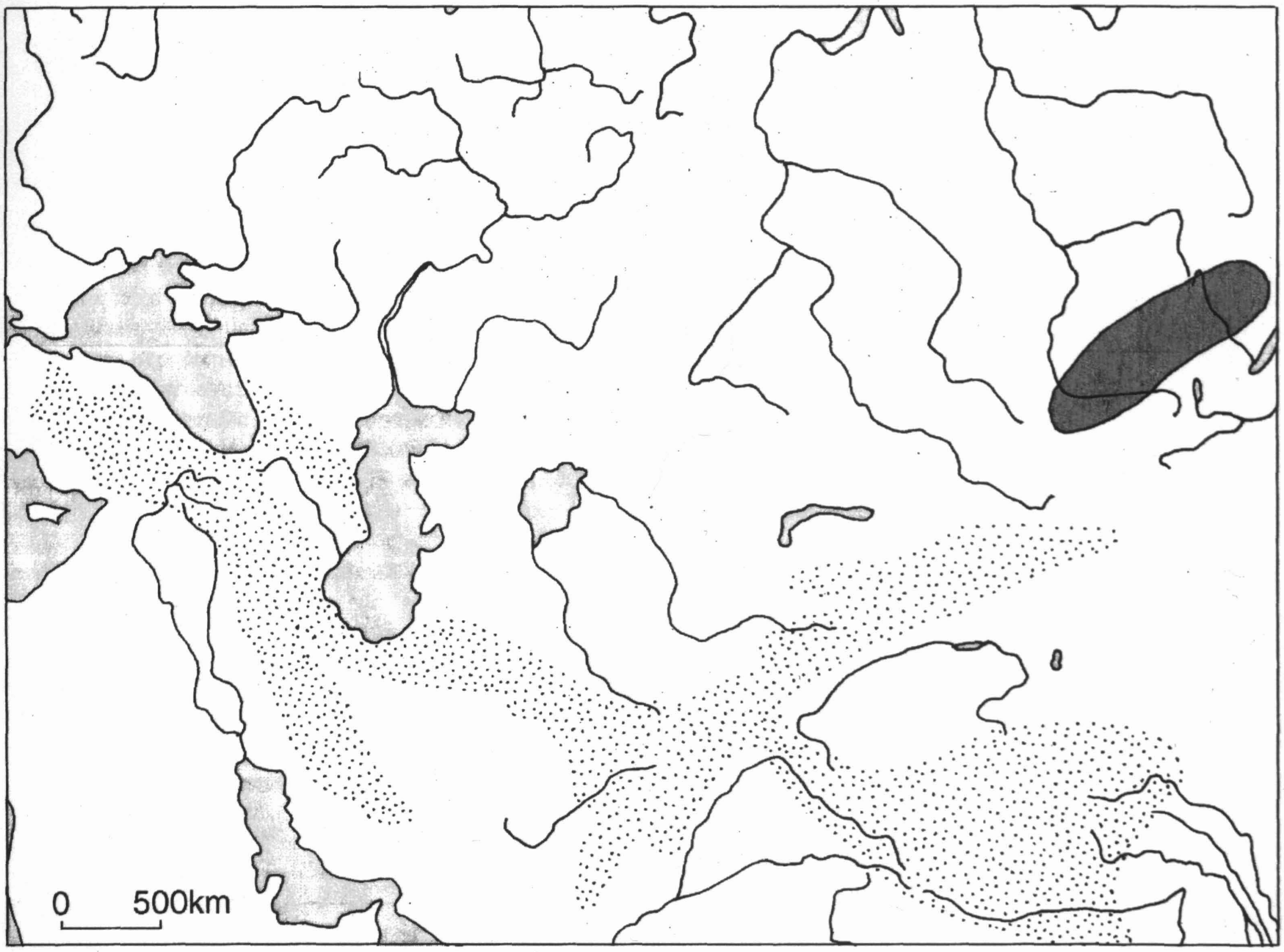
ADVANCE see GO

AFANASEVO CULTURE

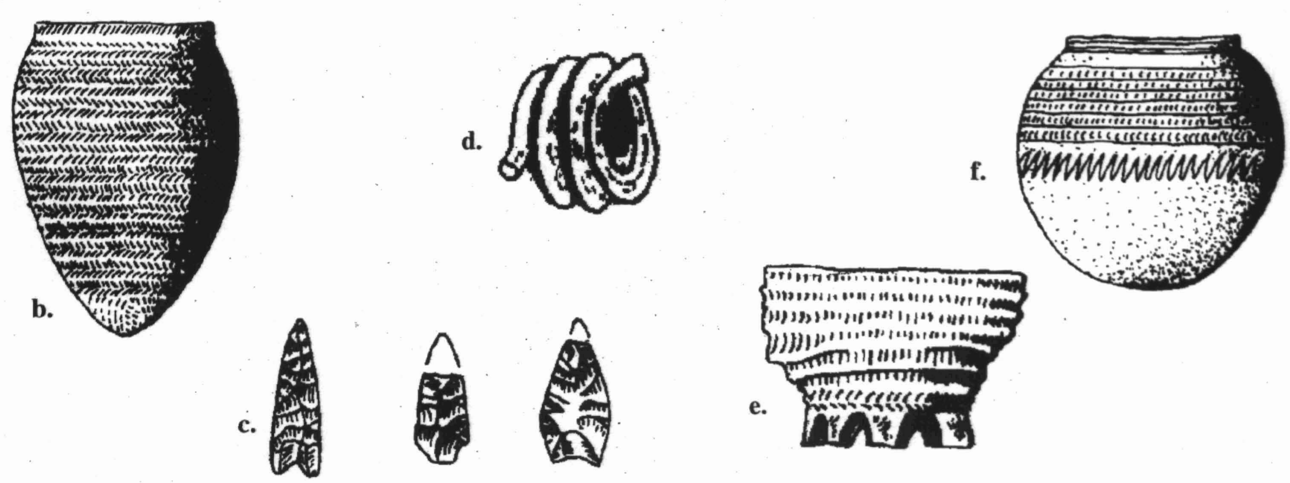
The Afanasevo culture is a south Siberian Copper/Bronze Age culture dating to *c.* 3500–2500 BC that occupied the Minusinsk Basin on the Yenisei river and the Altai mountains. Approximately ten settlements and fifty cemeteries are known from both the river valleys and open steppe. The domestic economy included cattle, and sheep/goat; horse remains, either wild or domestic, are also recovered. Tools were manufactured from stone (axes, arrowheads), bone (fish-hooks, points) and antler. Among the antler pieces are some objects that have been identified as possible cheek-pieces for horses. Among the ornaments are earrings made from copper, silver and gold. The culture is primarily known from its cemeteries which generally include both single and small collective burials with the deceased usually flexed on his or her back in a pit. The burial pits are arranged in rectangular, occasionally circular, enclosures marked by stone walls and it is argued that they represent family burial plots with four or five enclosures (families) constituting the local social group. Artistic representations of wheeled vehicles engraved on stone have been found within the region and have been attributed by some to the Afanasevo culture (alternatively to the later Okunevo culture).

Although far from the European steppe, the Afanasevo culture shares a considerable number of traits with its (distant) European neighbors. These comprise burials in the supine flexed position, the use of ocher, animal remains in graves, pointed-based pots, censers (circular bowls on legs) and a Europoid physical type along with both horses and the suspected presence of wheeled vehicles. In the western steppe the use of kurgans (tumuli) is general while Afanasevo tombs may have been covered by a very low mound. These characteristics have often served to link the Afanasevo with cultures of the Black Sea–Caspian region, specifically the Sredny Stog, Yamna, Catacomb and Poltavka cultures. Consequently, some see the Afanasevo culture as the easternmost extension of the European steppe cultures.

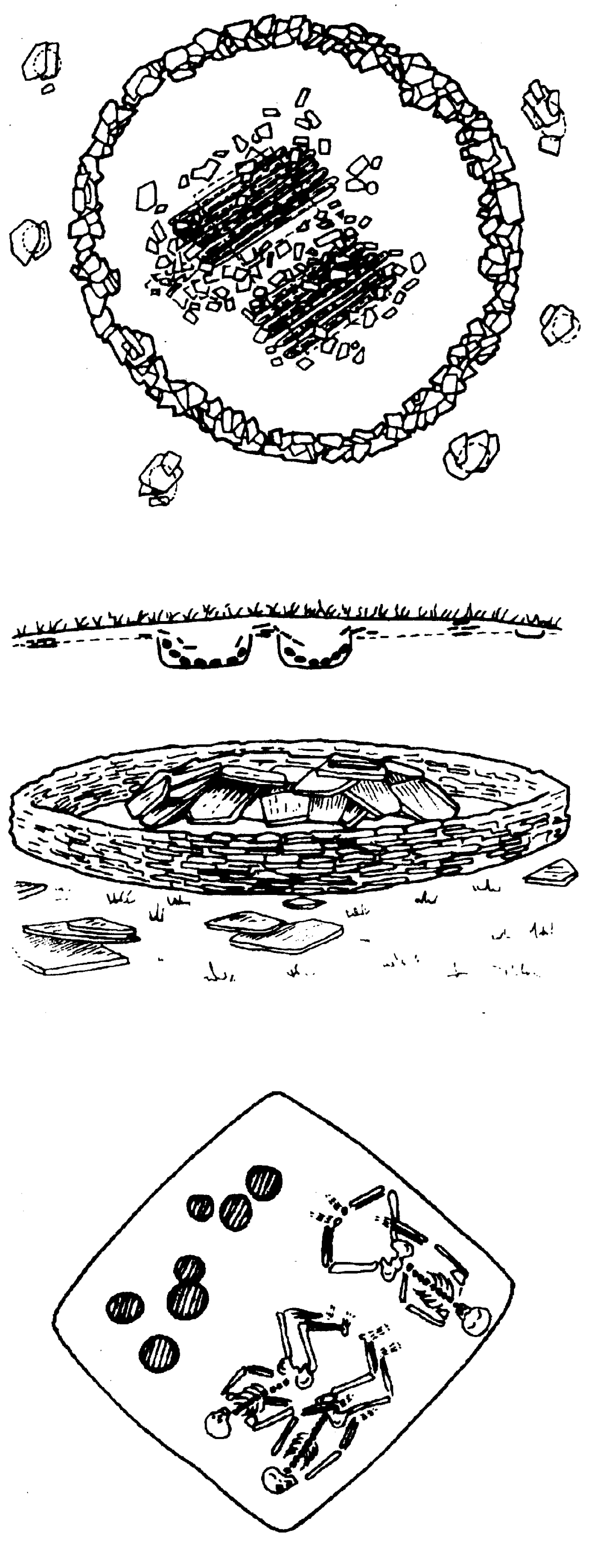
The existence of an early metal-using culture with a number of traits attributed to the early Indo-Europeans (horse, silver, wheeled vehicles) and distant cultural relations with European



Afanasevo a. Distribution of the Afanasevo culture in the Altai-Yenisei region.



Afanasevo b. Pointed-based vessel; c. Stone arrowheads; d. Silver ornament; e. "Censer", presumably for aromatic and/or narcotic substances; f. Globular vessel.



Afanasevo g. Plan of stone-built burial enclosure with burials in the supine position with legs flexed.

steppe cultures have all suggested that the Afanasevans were Indo-Europeans. Their geographical location could accommodate their identification with the linguistic ancestors of either eastern Iranian- or Tocharian-speaking peoples, particularly the latter as the Afanasevans appear to be so far removed from the main line of steppe cultures that are traditionally assigned to the Indo-Iranians, i.e., the Andronovo culture. Afanasevan sites have also been claimed for Mongolia and western China and a possible association between them and the Europoid mummies of Xinjiang has been proposed. The Afanasevo territory was later occupied by the Okunevo culture which is generally regarded as an extension of the local (non-Indo-European) forest culture into the region.

See also ANDRONOVO CULTURE; CATACOMB CULTURE; KURGAN TRADITION; POLTAVKA CULTURE; QÄWRIGHUL CULTURE; SREDNY STOG CULTURE; TOCHARIAN LANGUAGES; YAMNA CULTURE. [J.P.M.]

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AFTER *see* BACK[1]; BEHIND

AGAINST

proti 'against, up to'. [*IEW* 815–816 (**proti*); Wat 50 (**proti*)]. Latv *pretī* 'against', OCS *protivŭ* 'towards', Grk *προτί ~ ποτί ~ πρός* 'at, in front of, looking towards', Av *paiti* 'towards, against', OInd *práti* 'against'. From **pro* 'forward, before' + adverbial suffix **ti*. A word of at least the center and east of the IE world.

See also ADPREPS. [D.Q.A.]

AGE SET

Age set is a familiar concept in anthropology and refers to divisions within societies based on age where, for example, a person may pass through a series of "stages" in his or her life that may be reflected in initiations, status, duties, names, place of residence, or any other culturally relevant marker. Such practices have been widely observed, especially over Africa and the New World, and traces of them are also evident in the societies of the earliest attested IE traditions.

In a number of IE societies there is evidence for several age sets which pertained, in particular, to males and their relationship with warfare. At some time, generally twelve to fourteen years, a male child would take up arms, e.g., in Ireland a youth would literally 'take *gaisced*', i.e., 'spear and shield' as was also the case for a youth in ancient Germania who would receive *scutum frameaque* 'shield and lance' from his father, leader of the clan or war-band. According to

Xenophon (*Kyropaedia* 2. 2–15), the Persians of the court of Cyrus the Great moved from child (*παῖς*) to marriageable age (*ἔφηβος*) at the age of sixteen or seventeen while native Iranian sources indicate that one moved from 'schoolboy' at about fifteen to become a 'youth' (*yuvān mart*) until one was twenty and then an adult after that. In ancient India one similarly moved from 'youth' to 'adult' about the age of twenty. Roman legal tradition, and hence western European tradition in general, set adulthood at age twenty-one. In all these cases there was also a class of 'elders' who were relieved of the responsibility for participating in war and were rather called upon to give advice.

Kim McCone has posited a similar age set system for PIE where a child first moved into the category of a '(armed) youth' (and was known under such terms as *$^*h_a$iuh$_x$-n̥-k̑o*-'youth'), i.e., took up arms as a member of the war-band (**kor̯ios*) of unmarried and landless young men who engaged in predatory wolf-like behavior, living off hunting and raiding. Then at about the age of twenty they entered into the tribe proper (**teutéh$_a$-*) as married adults (**u̯i(h$_x$)rṓs* or **h$_a$néres*) in which they acquired their wealth through labor and/or were incorporated into the more prestigious regular military units of chariotry or cavalry. The leadership of the tribe was, according to McCone, ascribed to the 'king' (**h$_3$rḗĝs*). Finally, (should they have lived so long) they became 'elders' (**senōs* or **ĝerh$_a$ontes*) and were excused from military duties and occupied positions as advisers.

See also **Army**; **King**; **Leader**; **People**; **Social Organization**; **Warriors**. [J.P.M.]

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AGRICULTURE

The overall pattern of agricultural terms has been a persistent topic in IE studies, much of which has been stimulated by the observation that while stockbreeding terms appear to be widespread across the entire range of IE stocks, agricultural terms tend to be confined more closely among the European stocks and are, from a traditional point of view at least, scarce in the Indo-Iranian languages. This pattern has engendered different models of IE dispersions that variously saw the homeland set in Europe among farmers who spread across the steppe where the Asiatic IE-speakers lost their agricultural vocabulary while maintaining those terms pertaining to the keeping of livestock. Alternatively, the homeland was placed on the east European or Kazakh steppe and the earliest IE-speakers were regarded as primarily pastoralists who only adopted their agricultural terminology when they settled among the farming communities of Europe, hence the vocabulary of agriculture was confined to the European stocks. Finally, a middle ground could be held by those who envisaged a homeland large enough to promote both a mixed economy in the west and a pastoral one in the east which might explain the discrepancy between the Asiatic stocks and the rest of the IE world. But all three of these models are to some extent defined too sharply as there is no regime of stockbreeding known at the time prior to or during IE dispersals where there was not some agriculture and hence the dichotomization between the "steppe" and the "sown" may suggest differences in the primary emphasis of subsistence pursuits but cannot be used to characterize the entire range of the subsistence strategies of either region.

The nature of our earliest reconstructible PIE agriculture includes a series of terms for cereals which are strongly reconstructed to PIE although the actual semantic range tends to be frustratingly vague, where we must be uncertain as to the precise species involved. Perhaps the most specific of the solidly reconstructed terms is **i̯éu̯os* 'grain (particularly barley)'. Barley belongs to the oldest known of the domestic cereals, recorded in the Near East and Anatolia from at least the ninth millennium BC and it appears in Europe by the eighth or seventh millennium. The term **meiĝ(h)-* also appears to indicate 'barley' in the Baltic languages although in the language of its only Asian cognate, Khotanese, a derivative means 'field' < *'barley-field?'. There are other terms for 'barley' (**ĝhrésdh(i)*, **h$_2$élbhit*, **bhárs*) but these are all restricted to European stocks. Other terms for grain in general include **ses(i)ós*, **ĝr̥h$_a$nóm*, **dhoh$_x$néh$_a$-* and **dr̥h$_x$u̯eh$_a$-*. Conspicuous by its absence is a certain term for the most prized of the cereals, wheat, which as **puh$_x$rós* is attested only in Balto-Slavic and Greek and **sepit* is known only in Anatolian. There is no early agricultural regime known in any of the relevant parts of Eurasia in which barley might have been known to the exclusion of wheat. The original word may have been **puh$_x$rós*, or it may be concealed in any one of a number of terms that have undergone so much semantic change that we can only reconstruct their meaning as 'grain' (cf. NE *corn* which means 'wheat' in Britain but 'maize' in America). Possibly the 'awn' (**h$_a$ekstí-*) and 'ear' (**h$_a$ek̑es-*) of the cereal grain are also known. In addition to the actual cultivated cereals we have a word for 'weed/ryegrass' (**h$_2$éreh$_a$-*) whose semantic field might have been predicted, as ryegrass was one of the primary 'weeds' known in the earliest cereal assemblages of the Neolithic before rye was intentionally cultivated. A word for 'oats' (**h$_a$eu̯isos*), which is not only found in the European languages but also Iranian, may well have originally referred to the wild cereal. It was known since the early Neolithic where, like rye, it accompanied cultigens such as wheat and barley as a weed. The only other plants certainly cultivated or gathered were an 'esculent root' (**ālu-*) and 'edible greens' (**k̑eh$_1$kom*).

In addition to the specific names of plants we also can securely reconstruct terms associated with the technology and processes of cultivation. The old argument that the ancestors of the Indo-Iranians either did not know agriculture or had abandoned it in their movements across the steppe rested to some extent on the reconstruction of a word for 'field'

(_*h$_2$eĝros_) which regularly indicated a cultivated parcel of land in the European languages but only an uncultivated 'plain' in Old Indic. But such a hypothesis is harder to sustain when we also have a term _*k̂āpos-_ that indicates cultivated land in both the European stocks and in Iranian. Moreover, we have fundamental terms for breaking the soil either by 'plowing' (_*h$_2$érh$_3$i̯e/o-_), or by a 'harrow' (_*h$_3$ek̂éteh$_a$-_), 'sowing' grain (_*seh$_1$-_), employing a 'sickle' (_*sr̥po/eh$_a$-_) for harvesting and 'threshing' the grain (_*u̯ers-_ ; and if an Anatolian cognate is sufficient for Asia, _*h$_2$eh$_2$er-_), which produces the 'chaff' (_*pelo/eh$_a$-_). There are also several words for 'grind' (_*melh$_2$-_, _*peis-_). From this we can see that there is no case whatsoever for assuming that the ancestors of all the Indo-European stocks did not know cereal agriculture. While there may have been speculation in the past as to whether some terms might have applied originally to the gathering and processing of wild plants, terms for the plow, cultivated field, and techniques appropriate to the processing of domesticated cereals whose home range lay outside of most of Europe, suggest that *all* the earliest Indo-Europeans knew agriculture before their dispersals.

The terminology concerning agriculture can also shed some light on the timing of IE dispersals. The earliest agricultural "package", developed in the Near East and introduced into Europe, consisted of wheat, barley, flax, pea, and chick-pea plus a series of weeds that only later, at the end of the Neolithic or during the Bronze Age, was demonstrably domesticated. As we have seen, it is difficult to specify the precise word for either 'wheat' or 'barley' in PIE. The other terms for the earliest domesticated plants are geographically confined. A word for 'flax' (_*linom_), for example, is limited to European stocks while the terms for 'pea' (_*h$_1$ereg^{w}o-_) and 'chick-pea, garbanzo' (_*k̂ik̂er-_) are confined to Italic-Germanic-Greek (with inter-dialectal borrowing) and Italic-Macedonian-Armenian and, in both cases, may be Mediterranean loanwords. In the case of the 'pea' this does not demonstrate that the earliest Indo-Europeans were not familiar with it as the pea occurs in the earliest Neolithic plant assemblages over most of Europe but this is not the case for the chick-pea which is generally absent from Neolithic assemblages outside of the Mediterranean and suggests the possibility that IE stocks only came into contact with it when they entered the Mediterranean region from somewhere else. Finally, the plow is the most significant reconstruction as there is no evidence for its use until about the fourth millennium BC, about three thousand years after the initial dispersal of agricultural communities through Europe. From all of this, one may conclude that: 1) the Proto-Indo-Europeans knew the sowing, harvesting and processing of domesticated cereals; 2) they possessed an agricultural technology (the plow) that only appeared (at least according to current archaeological evidence) about the fourth millennium BC; and 3) there are a number of items associated with the initial agricultural dispersions—flax, pea, chick-pea—which we are unable to reconstruct at the level of PIE status although we can reconstruct these at more geographically confined (i.e., temporally later?) horizons.

The most recent phases of IE agriculture are also reflected in terms that are severely confined to a certain geographical region, most specifically that of the northwest stocks running from Celtic and Italic on the west across Germanic and ending with Balto-Slavic. Some of these words refer to flora that is generally found over most if not all of Europe, e.g., 'angelica' (_*k̂u̯éndhro-_), 'henbane' (_*bhel-_), '(wild) turnip' (_*rēpéh$_a$-_ which was borrowed into Greek). In some cases the terms are associated with agricultural systems or field technology, e.g., 'waste land' (_*lendh-_) and 'fallow' (_*polk̂éh$_a$-_). The latter attests some form of crop rotation among the late IE speakers antecedent to Celtic, Germanic and Slavic. Concepts associated with the application of plow-agriculture are also geographically confined, e.g., 'furrow' (_*pr̥k̂eh$_a$-_) which was built on a PIE root to yield a term in Celtic, Italic and Germanic and another term for 'furrow' (_*l(o)iseh$_a$-_) in Italic, Germanic, and Balto-Slavic. Given the geographical distribution of these terms, they may have been created as early as the TRB culture of *c* 4300 BC or at any time subsequent, e.g., the Corded Ware horizon of *c* 3300 BC or later during the Bronze Age. That the probable horizon for these words was later rather than earlier is suggested by several of the domestic cereals found across the northwest languages. Although 'flax' (_*lino-_), for example, is known from the earliest Neolithic in southeast Europe, it only appears in the peripheral areas of Europe much later, e.g., in Ireland by *c* 2200 BC. More importantly, the term for 'rye' (_*rughi-_) indicates a plant known only as a weed during the early Neolithic but which appears as a domesticate first in the Bronze Age, *c* 2000 BC. In short, we have a series of terms that are associated with the northwest IE stocks whose ancestor was sufficiently uniform to permit the spread of terms in the late Neolithic or early Bronze Age.

See also BARLEY; BEAN; CHAFF; CHICK-PEA; FEED; FIELD; FLAX; FURROW; GRAIN; GRASS; GRIND; HARVEST; HEMP; MILLET; OATS; PEA; PLANTS; PLOW; POPPY; RYE; SEED; SICKLE; SOW; THRESH; VEGETABLES; WHEAT; WINE; WINNOW. [J.P.M.,D.Q.A.]

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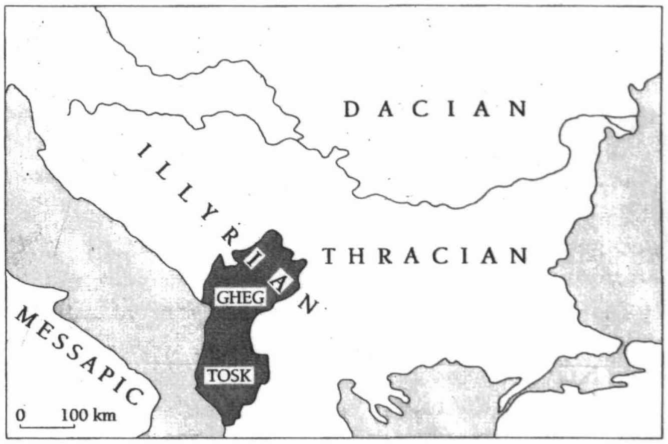
ALBANIAN LANGUAGE

Albanian is an Indo-European stock composed of a single language whose historical location has been centered on modern Albania and the adjacent parts of Yugoslavia (Kosovo-

Metohija, Montenegro) and Macedonia, with outlying enclaves in central and southern Greece (initiated in the fourteenth century) and in Italy (colonized in the fifteenth and sixteenth centuries AD). The first explicit reference to Albanian comes only in 1332 when it was already apparently a written language. The earliest preserved (sentence length) texts of the language are datable to roughly 1480 and the earliest book in Albanian was published in 1555. That Albanian was an Indo-European language was first recognized in 1854 by Franz Bopp. Its Indo-European nature had been obscured to early investigators by the heavy lexical borrowing that had taken place in Albanian from Greek, Latin, Slavic, and Turkish. The earliest identifiable loanwords are from Greek, e.g., *mokër* 'millstone' (< West Grk [Doric] *μᾱχανᾱ́*) or *drapër* 'sickle' (< West Grk *δράπανον*). As in these two cases, the evidence suggests that Greek influence came from western Greece, more particularly from Greek colonies on the Adriatic coast. Much more extensive was the later influence of Latin. Even very common words such as *mik* 'friend' (< Lat *amicus*) or *këndoj* 'I sing; read' (< Lat *cantāre*) come from Latin and attest to a widespread intermingling of pre-Albanian and Balkan Latin speakers during the Roman period, roughly from the second century BC to the fifth century AD. The Greek and Latin loans have undergone most of the far-reaching phonological changes which have so altered the shape of inherited IE words while Slavic and Turkish words do not show these changes. Thus Albanian must have acquired much of its present form by the time the Slavs entered into the Balkans in the fifth and sixth centuries AD.

Since Albanian would appear to be autochthonous in the Balkans it is natural to suppose that it is the medieval and modern descendant of one of the IE groups inhabiting the Balkan Peninsula in classical times. These IE groups include the Illyrians inhabiting Albania, Bosnia and Croatia, the Thracians in the southeast quarter of the Balkans, and the Dacians inhabiting modern Romania. Albanian has indeed been derived from each of these groups (or even taken as a mixture of two of them) but the evidence for doing so is essentially non-existent. The linguistic records of the Illyrians, Thracians, and Dacians are just sufficient to make it reasonably certain that they were all Indo-European. Nothing in what is known of them so far shows any particular connection with what we know of Albanian.

The dialects of Albanian are divided into two major groups, Gheg (in the center and north of Albania and in the adjacent parts of Serbia and Macedonia) and Tosk (in southern Albania and in the outlying enclaves of Greece and Italy). Gheg dialects are characterized by the preservation of Proto-Albanian single **-n-* between vowels and a full set of phonemically distinct nasalized vowels. Tosk dialects, on the other hand, show a change of single intervocalic **-n-* to *-r-* and the merger of nasalized and non-nasalized vowels. In these two respects Tosk varieties are innovative vis-à-vis Gheg. However, Tosk preserves far better Proto-Albanian unstressed *-ë-* and thus also preserves Proto-Albanian syllable structure better than does Gheg. Albanian as a standardized literary language dates back only to the beginning of the twentieth century. The standard before World War II was a variety of southern Gheg while the post-war standard has been a northern variety of Tosk (all examples given here are in the contemporary standard).



Albanian Distribution of Albanian and its two dialects (Gheg and Tosk) against the background of Iron Age languages of the Balkans and southern Italy.

Description

The Albanian language that is first attested to us in the late Middle Ages is moderately conservative from the point of view of morphology. It preserves three genders and two numbers, and four cases in the noun. The dual is lost and the neuter is, even at the time of the language's earliest attestation, being merged with the masculine—a process almost completed in the current standard language. The verb preserves the distinction between active and middle (e.g., *quaj* 'I call; consider', *quhem* 'I am called, am named'), between the present and aorist, and among the indicative, subjunctive, and imperative moods. Phonologically Albanian is not so conservative. Like many IE stocks it has merged the two series of voiced stops (thus both **d* and **dh* become *d*, etc.). In addition the voiced stops tend to disappear when between vowels. There is the almost complete loss of final syllables and the very widespread loss of other unstressed syllables (compare *mik* 'friend' from Lat *amicus*). PIE **a* and **o* appear as *a* (as *e* when a high front vowel follows) while **ē* and **ā* become *o* and PIE **ō* appears as *e*. Perhaps most remarkable is the fate of the tectals: the palatals, velars and labio-velars all remain distinct before front vowels, a conservatism found otherwise only in Luvian and related Anatolian languages. Thus PIE **k̂*, **k*, and **k^w* become *th*, *q*, and *s* respectively (before back vowels **k̂* becomes *th* while **k* and **k^w* merge as *k*). Another remarkable conservatism is the preservation of initial **h_4* as Alb *h* (all other laryngeals disappear completely).

Proto-Indo-European and Albanian Phonological Correspondences

PIE		Albanian	PIE	Albanian
*p	>	p	**pékʷe/o-* 'cook'	*pjek* 'cook'
*b	>	b	**sorbéi̯e/o-* 'drink, slurp'	*gjerb* 'eat, drink'
*bh	>	b	**bhak̂eh$_a$-* 'bean'	*bathë* 'bean'
*t	>	t	**tuh$_x$* 'thou'	*ti* 'thou'
*d	>	d	**dih$_x$tis* 'light'	*ditë* 'day'
*dh	>	d	**dhégʷhe/o-* 'burn'	*djeg* 'burn'
*k̂	>	th	**k̂éh$_1$mi* 'I say'	*thom* 'I say'
*ĝ	>	dh	**ĝómbhos* 'tooth, peg'	*dhëmb* 'tooth'
*ĝh	>	d	**ĝhr̥sdhi* 'grain, barley'	*drithë* 'grain'
*k	>	k	**kápmi* 'I take'	*kam* 'I have'
*g	>	g	**h$_3$lígos* 'sick'	*ligë* 'bad'
*gh	>	g ~ gj	**ghordhos* 'enclosure'	*gardh* 'fence'
			**ghédni̯e/o-* 'get'	*gjej* 'find'
*kʷ	>	k ~ s	**kʷeh$_a$sleh$_a$-* 'cough'	*kollë* 'cough'
			**kʷéle/o-* 'turn'	*sjell* 'fetch'
*gʷ	>	g ~ z	**gʷr̥-* 'stone'	*gur* 'stone'
			**gʷērh$_x$u-* 'heaviness'	*zor* 'heaviness, trouble'
*gʷh	>	g ~ z	**dhégʷhe/o-* 'burn'	*djeg* 'burn'
			**h$_1$en-dhogʷhéi̯e/o-* 'kindle'	*ndez* 'kindle'
*s	>	gj ~ sh ~ ø ~ d	**sék̂stis* 'six'	*gjashtë* 'six'
			**septm̥tis* 'seven'	*shtatë* 'seven'
			**pumsos* 'body-hair'	*push* 'fuzz, nap, pile'
			**h$_1$ésmi* 'am'	*jam* 'am'
			**su̯orgéi̯e/o-* 'be ill'	*dergjet* 'lies ill'
*i̯	>	gj	**i̯ése/o-* 'ferment'	*gjesh* 'knead'
*u̯	>	v	**u̯oséi̯e/o-* 'dress'	*vesh* 'dresses'
*m	>	m	**meh$_a$tr-eh$_a$-* 'maternal'	*motër* 'sister'
*n	>	n	**nos* 'we'	*na* 'we, us'
*l	>	l ~ ll	**h$_3$ligos* 'sick'	*ligë* 'bad'
			**kʷéle/o-* 'turn'	*sjell* 'fetch'
*r	>	r	**repe/o-* 'take'	*rjep* 'peel'
*n̥	>	e	**h$_1$n̥men-* 'name'	*emër* 'name'
*m̥	>	e	**u̯ik̂m̥ti* 'twenty'	*-zet* 'twenty'
*l̥	>	ul	**u̯l̥kʷos* 'wolf'	*ujk* 'wolf'
*r̥	>	ri	**ĝhr̥sdom* 'grain, barley'	*drithë* 'grain'
*i	>	i ~ e	**sinos* 'bosom'	*gji* 'bosom'
			**du̯igheh$_a$-* 'twig'	*degë* 'branch'
*ī	>	i	**dih$_x$tis* 'light'	*ditë* 'day'
*e	>	je ~ ja	**u̯étos* 'year' (loc.)	*vjet* 'last year'
			**sélpos* 'fat'	*gjalpë* 'butter'
*ē	>	o	**ĝhēsr-* 'hand'	*dorë* 'hand'
*a	>	a ~ e	**bhak̂eh$_a$-* 'bean'	*bathë* 'bean'
			**h$_a$élbhit* 'barley'	*elb* 'barley'
*o	>	a ~ e	**ghórdhos* 'enclosure'	*gardh* 'fence'
			**ghórdhoi* 'enclosures'	*gjerdh* 'fences'
*ō	>	e	**h$_2$ok̂tōtis* 'eight'	*tetë* 'eight'
*u	>	u	**supnos* 'sleep'	*gjumë* 'sleep'
*ū	>	y ~ i	**suh$_x$sos* 'grandfather'	*gjysh* 'grandfather'
			**mū́s* 'mouse'	*mi* 'mouse'
*h$_1$	>	ø	**h$_1$ésmi* 'am'	*jam* 'am'
*h$_2$	>	ø	**h$_2$ŕ̥tk̂os* 'bear'	*ari* 'bear'
*h$_3$	>	ø	**h$_3$ónr̥* 'dream'	*ëndërr* 'dream'
*h$_4$	>	h	**h$_4$órĝhii̯eh$_a$-* 'testicle'	*herdhe* 'testicle'

Origins

The origins of the Albanians cannot be separated from the problem of assigning their linguistic ancestors to one of the three main groups of the Balkans: Dacians, Thracians or Illyrians. Although there are some lexical items that appear to be shared between Romanian (and by extension Dacian) and Albanian, by far the strongest connections can be argued between Albanian and Illyrian. The latter was at least attested in what is historically regarded as Albanian territory and there is no evidence of any major migration into Albanian territory since our records of Illyrian occupation. The loan words from Greek and Latin date back to before the Christian era and suggest that the ancestors of the Albanians must have occupied Albania by then to have absorbed such loans from their historical neighbors. As the Illyrians occupied Albanian territory at this time, they are the most likely recipients of such loans. Finally, as Shaban Demiraj argues, the ancient Illyrian placenames of the region have achieved their current form through the natural application of the phonetic rules governing Albanian, e.g., *Durrachion* > Alb *Durrës* (with Albanian initial accent) or Illyrian *Aulona* > Alb *Vlonë* ~ *Vlorë* (with rhotacism in Tosk). Demiraj suggests that the transition from Illyrian to Albanian began during the fifth and sixth centuries AD and was clearly completed before the immigration of Albanian-speakers to Greece and Italy in the fourteenth–sixteenth centuries.

See also ILLYRIAN LANGUAGE; MESSAPIC LANGUAGE.
[D.Q.A., J.P.M.]

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ALDER

u̯erno/eh$_a$- 'alder'. [*IEW* 1169 (**u̯er-$_{(e)}$nā*); GI 546 (**wer-n*); Fried 149; BK 493 (**wir-/*wer-*)]. MIr *fern* 'alder', Wels *gwern* 'alder', French *verne* ~ *vergne* 'alder' (borrowed from Gaulish), Alb *verr* ~ *verri* ~ *verrë* 'alder', Arm *geran* 'alder', OInd *varaṇa-* '*Crataeva roxburghii*' (used in medicine and supposedly containing magical virtues). The distribution, which includes the periphery of the IE world, suggests PIE status for this word.

h$_a$éliso/eh$_a$- 'alder (*Alnus barbata*)'. [*IEW* 302–303 (**el-*); Wat 16–17 (**el-*); GI 546 (**eliso* ~ **aliso*); Fried 70–73]. From **h$_a$élisos* or the originally adjectival **h$_a$elisnos*: Gaul *Alisanos* (if 'Alder God'), OHG *elira* ~ *erila* 'alder', Goth **alisa-* (attested by the Spanish borrowing *aliso* 'alder'), Lith *alìksnis* 'alder', Rus *ólĭkha* 'alder', Maced (Hesychius) *ἄλιζα* 'white poplar', possibly also Grk *'Ολιζῶν* 'place of alders' (and home of the Iliadic Philoctētēs); from **h$_a$elsno-*: Lat *alnus* 'alder', OPrus **alskande* (for *abskande*) 'alder', Lith *al̃ksnis* 'alder', Latv *àlksnis* 'alder' (Lith *el̃ksnis*, Latv *èlksnis*, both 'alder' have secondary *e-*). If they belong with this etymon Alb *halë* 'black pine' and Hit *alanza(n)* (a type of tree) are also from **h$_a$elsnos* (the Hittite with metathesis to **h$_a$elnsos*). The Hittite and Albanian, presuming they belong, both argue for an initial *h$_4$-*. ON *ǫlr* 'alder' and OE *alor* 'alder' (> NE *alder*) appear to reflect a Proto-Gmc **aluza-*. Without the Anatolian form, this would appear to be a word of the west and center of the IE world. If the Hittite word is accepted, then this etymon could claim PIE status; however, there are also linguists who propose that **h$_a$elisos* is a non-IE substratal term of north(central) Europe which may derive from a non-IE proto-form **a-lĭ-sa* which is argued to underlie the Celtic, Germanic, Slavic and Macedonian forms.

kleh$_a$dhreh$_a$- 'alder'. [*IEW* 599 (**klădhrā*); Fried 149]. NHG (dial.) *lutter* 'dwarf birch, mountain alder', Grk *κλήθρᾱ* 'sticky alder' (cf. Homeric *κλήθρη* for the alders before Calypsō's cave and the dried alders employed by Odysseus for his raft). The correspondence is sound and points to some antiquity in Indo-European.

The alder, a usually shrubby tree marked by woody cones (which may help to explain the possible semantic shift in Alb *halë* from 'alder' to 'black pine') and male catkins, flourished throughout most of Europe: the grey alder (*Alnus incana*) to the north, the bearded alder (*Alnus barbata*) toward the Caucasus, the mountain alder (*Alnus viridis*) in many highland areas, the black alder (*Alnus glutinosa*) throughout the central zones. While alder forests sometimes form, this tree is usually an understory in deciduous forests, or an ecological pioneer, or even dominant in ecological niches such as river bottoms or along river banks, where early Indo-Europeans presumably preferred to dwell. The archaeological context for alder finds on prehistoric sites ranges from implements to structural posts in the construction of houses.

During the period *c* 6000–3000 BC, the alder is only absent in pollen diagrams from the southernmost region of the Mediterranean, i.e., southern Spain, Italy and Greece, but even here it is present in the northern halves of these countries. Alder is also known from this period from southwest Anatolia, the forest-steppe region of the Pontic-Caspian and in the Caucasus but it appears to have been absent from south

Central Asia. Thus, although at least one term for 'alder' can be reconstructed to PIE, the wide distribution of this tree prevents it from being diagnostic of the earlier location of the Indo-Europeans.

See also TREES. [P.F.]

ALONE

***oinos** 'one alone'. [*IEW* 286 (**oi-nos*); GI 741 (**oi-no-*); Wat 45 (**oi-no-*)]. OIr *oen*, *oīn* 'only one, single', *oena* 'units', *ōenān* (adv.) 'alone, in the same way' (not adjectival or numeral in early Irish), OLat (acc. masc.; Scipio inscription) *oino(m)*, Lat *ūnus* 'one, alone', SC *ìń* 'other', Grk *οἶνη* 'one (on dice)', *οἶνος* 'alone', Arm *-in*, particle as in *so-in* 'the one here', OInd *éna-* 'he'. Derivatives: OE *eall-āna*, NE *alone* (< *'all one'), Goth *ains-hun* 'no one'. With **-ko-* suffix: **oinokos* 'only': Lat *ūnicus* 'only, unique', Goth *ainaha* 'only', OCS *inokŭ* 'alone; hermit'; with final syllable accent: ON *einga* 'only', OE *ānga* 'only', *ǣnig* ~ *ānig* 'some, any' (> NE *any*), OHG *einak* 'only' (> NHG *einig* 'at one', pl. *einige* 'some'); **oino-go-*: with **-go-* suffix and PIE diminutive **-lo-*: OSwed (masc.) *ænkill* 'widower', Goth **ainakls* 'standing alone'; with **oi-* plus *-u̯o-*: Grk *οἶ(ϝ)ος* 'alone', Av *aēva-* 'one, alone', OPers *aiva-* 'one, alone', OInd *evá* 'thus, just so', *ivá* 'as, like'; **oi-* plus *ko-*: ON *ekkja* 'widow', NIce *ekkill* 'widower'.

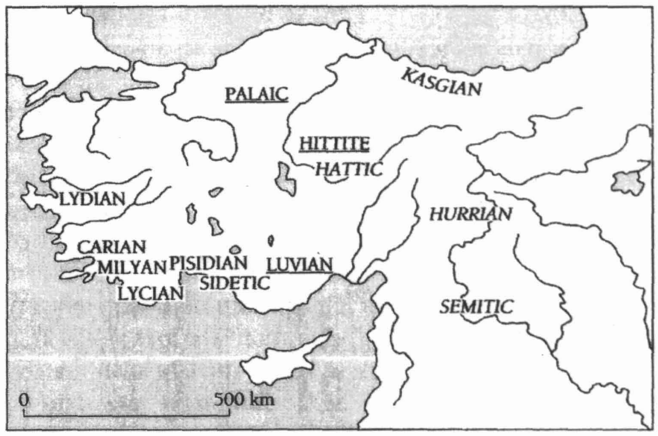
***sem-go-(lo)s** 'single one'. [*IEW* 902 (**sem-*); Wat 57 (**sem-*); BK 184 (**sam-/*səm-*)]. Lat *singulī* 'single, individual', *singulāris* 'single, alone; unique'; in compound: Grk *μῶνυξ* 'with one (uncloven) hoof' (**sm̥- + *h₃nogʷh-*); without **-go-(lo)-* : *μόνος* 'alone' (perhaps not < **men-* 'small' [*IEW* 728–729 (**men-*)], but possibly **sm-on-os-* 'one'?); other formations in Arm *mekin* 'single' (< **mea-* < **miya-* < **smiya-*), TochA *snāki* 'alone', TochB *ṣeske* 'alone', *ṣesketstse* 'quite alone'. Independent innovations on both **oino-* and **sem-* with suffixes **-ko-/-go-* and **-lo-*.

***kai-u̯elos** 'alone'. [*IEW* 519 (**kai-*); BK 252 (**k[ʰ]ay-*)]. Lat *cae-lebs* (< **kaiu̯elo-lib(h)*) 'living alone, celibate', ?Latv *kails* 'barren, childless', OInd *kévala-* 'alone'.

See also NUMERALS (ONE); SOME. [C.F.J.]

ANATOLIAN LANGUAGES

The archaeological discovery of the extensive archives of the Hittite empire in the Turkish village of Boğazköy (ancient Hattusa) in the early years of this century, and the linguistic discovery that some of the languages represented there (Hittite, Palaic, Cuneiform Luvian, but not Hattic or Hurrian) were Indo-European, caused something of a sensation among historians and linguists alike. Their discovery forced a re-evaluation of Near Eastern history and Proto-Indo-European linguistics that has not yet come to an end. Historians now had evidence of another major Near Eastern power, the Hittite empire, that treated even with Egypt as an equal: linguists had evidence for a group of Indo-European languages where no such languages had been known before or even suspected. Hittite, Palaic, and Cuneiform Luvian were in the age of their attestation earlier by almost a thousand years than any other



Anatolian I Distribution of the early languages of Anatolia and adjacent regions. The early (IE) Anatolian languages were Hittite, Palaic and Luvian. The later languages, certainly or probably related to Luvian, included Lydian, Carian, Milyan, Lycian, Pisidian and Sidetic. The non-IE languages of the region were Hattic, Hurrian, Semitic, and the very poorly known Kasgian.

IE language (though the discovery of Mycenaean Greek in the 1950s has shortened the gap a good deal). Later evidence from other parts of Anatolia has added to the list of Anatolian languages Hieroglyphic Luvian (at first thought to be a form of Hittite written in hieroglyphs and therefore formerly called "Hieroglyphic Hittite"), and the previously known but not well-understood Lycian, and Lydian. Even more recently the sparsely attested Sidetic, Pisidian, and Carian languages have been joined to this group. Palaic, Hittite, and Cuneiform Luvian are written in the cuneiform syllabary originally developed for Sumerian and transferred to the Anatolian languages via the Akkadians. Hieroglyphic Luvian, as its designation presupposes, is written in hieroglyphic symbols while the other languages are all written in alphabetic scripts similar in many respects to the various Greek alphabets of Asia Minor.

Hittite, Palaic, and Cuneiform Luvian are all attested in the archives of Hattusa, the capital of the Hittite empire. Hittite was by far the most common language attested there, being the administrative language of the Hittites and probably the native language of the Hittite elite and of a substantial portion of the inhabitants of central Anatolia. However, the Hittite pantheon was an eclectic one and included Palaic and Luvian gods and thus the archives of Hattusa also contain ritual texts in those languages as well. Though all three languages are attested in the same place, it would appear that natively they were spoken (or at least had been spoken) north of the Halys River in the case of Palaic, in central Anatolia in the case of Hittite (both Palaic and Hittite coexisting with the non-IE Hattic) and in south-central Anatolia in the case of Cuneiform Luvian. Hieroglyphic Luvian is closely related to Cuneiform Luvian but is not identical with it and is attested somewhat later and then in south-central Anatolia and extending into adjacent northern Syria. To the west of Luvian country we

find Sidetic (in the city of Side), Pisidian, Lycian (and its dialect Milyan, both in extreme southwestern coastal Anatolia), and then moving north along the Aegean coast to Carian and finally Lydian. While adjacent languages in this chain (Palaic, Hittite, Luvian, Sidetic, Pisidian, Lycian/Milyan, Carian, Lydian) tend to share linguistic features with their neighbors that they do not share with their more distant kin, it is possible to see two major divisions of the Anatolian stock: Hittite-Palaic and "South/West-Anatolian" (i.e., the reasonably well-known Luvian, Lycian, and Lydian, along with Sidetic, Pisidian, and Carian).

Hittite-Palaic

Hittite is overwhelmingly the best attested Anatolian language, with some 25,000 written tablets and fragments of tablets, and thus the best known. So much better known that the other Anatolian languages was Hittite that for most of this century the knowledge of Hittite and the knowledge of Anatolian languages has been essentially synonymous. The primary subject of our Hittite texts concerns the administration of the state religion and mythology. The latter has borrowed very extensively from non-IE traditions; however, the core vocabulary is still very solidly of Indo-European derivation. We can distinguish Old Hittite (1570–1450 BC), Middle Hittite (1450–1380) and New Hittite (1380–1220). Palaic, the language of Pala, is known only from a relatively few tablets in the Hattusa archives; it may have already been extinct by the time of our earliest written testimony and by the thirteenth century BC it is presumed that the language was long dead. Hittite and Palaic are characterized by the change of PIE **-eh$_1$-* to *-ē-*, **-e-* to *-i-*, when before the stress, and to *-a-* when after the stress (and in an open syllable), and of **-k̑-* to *-k-*.

South/West-Anatolian

It has been argued that the earliest evidence for Anatolian, personal names recorded in Assyrian texts in the centuries around 2000 BC, tend to appear already as differentiated Luvian. The main evidence for Luvian comes from Cuneiform Luvian which is attested from 1600 to 1200 BC. Hieroglyphic Luvian, which was written in a hieroglyphic script apparently devised in Anatolia, is attested from 1300 to 700 BC. The hieroglyphic script is primarily found in the form of inscriptions on stone which include both material of a dedicatory nature and also historical texts. Lycian/Milyan, Carian, and Lydian are all attested from about 500 to 300 BC while Sidetic and Pisidian are attested later yet (Sidetic from 200–100 BC and Pisidian from 100–200 AD). None of these languages has left anywhere near as extensive a record as Hittite and some have left very meager remains indeed. Lycian is attested by some two hundred inscriptions, almost exclusively found on tombs. Lydian, known from over a hundred inscriptions, is primarily attested in the form of funerary memorials from the fifth and fourth centuries although some coin inscriptions may be several centuries earlier. Uniquely, some of the Lydian inscriptions are also in verse. Carian is known from both Anatolia and in the form of graffiti from Egypt which absorbed Carian immigrants from the seventh to fourth centuries BC. Pisidian is known from about thirty mortuary inscriptions of the type 'X [son] of Y'. Sidetic, known only from a half-dozen inscriptions, derives from third century BC contexts. On the basis of the moderately well-known Luvian, Lycian, and Lydian, this subgroup of Anatolian is characterized by the change of **-eh$_1$-* to *-ā-*, of **-ē-* to *-ī-*, and of **-k̑-* to **-tś-* (the evidence, one way or another, for the last is lacking in Lydian).

Relationship of Anatolian to Proto-Indo-European

It is clear that the Anatolian languages are remarkably conservative in some respects but they also show clear differences from other Indo-European languages. Thus, on the one hand, Hittite and the other Anatolian languages preserve at least one PIE laryngeal, **h$_2$*, as a regular phoneme, written 'h' or 'hh', and traces of a second laryngeal, **h$_3$*, also written 'h'. Most Anatolian languages have reorganized the inherited three-way distinction of stops, e.g., **t, *d, *dh*, into a single series whereby they all show as a voiceless stop in word initial position and as voiced in word final position. Within a word the originally voiceless stops are geminate or long (and coincidentally voiceless) while the other two series are single or short (and coincidentally voiced?). Thus the apparent orthographic distinction between *b/p, d/t, g/k* (where the difference between 'b' and 'p', for instance, reflects a phonological difference in Sumerian and Akkadian) is not real: in Hittite and other Anatolian languages written in cuneiform script 'b' and 'p' can be used interchangeably, though one or the other may be preferred, even strongly so, in a given word. On the other hand, the orthographic distinction, say, *k/kk* in the middle of words, is real. This rearrangement, however, seems to have affected all the Anatolian languages after the period of Anatolian unity. In the accompanying table Proto-Indo-European developments in Anatolian are exemplified by Hittite.

Turning to morphology we may note that Anatolian has numerous examples of neuter nouns that have their nominative/accusative shapes ending in *-r* while the other cases have *-n-* instead. This heteroclisis is a very old pattern in Indo-European but nowhere else is it preserved so commonly. On the other hand, Anatolian shows no traces of a separate dual number, having only singular and plural, and its verb has only two moods (indicative and imperative, but no subjunctive or optative) and two tenses (present and past—and in the past no distinction of imperfect and aorist, and no perfects indicating states that result from some prior action). In these respects Anatolian seems to have a simpler morphological system than most of the other anciently attested IE groups. It might be noted that the absence of a feminine gender, which has often been cited as a further example of the simplicity of the Anatolian morphological system, may be a mirage and the presence of an *a*-vocalism in Lycian animate nouns

Proto-Indo-European and Anatolian Phonological Correspondences

PIE		Hittite	PIE	Hittite
*p	>	p/pp	**pédom* 'place'	*pēdan* 'place'
*bh	>	p	**bherĝhus* 'high'	*parku-* 'tall'
			**nébhes-* 'sky, cloud'	*nēpis* 'sky'
*t	>	t/tt	**u̯et-* 'year'	*wētt-* 'year'
*d	>	d	**dóru* 'wood, tree'	*tāru* 'wood, tree'
*dh	>	d	**dhurh*$_x$- 'shaft, pole'	*tūriye-* 'hitch'
*k̂	>	k/kk	**k̂(u)u̯ṓn* 'dog'	*kuwan-* 'dog-man'
*ĝ	>	k	**ĝénu* 'knee'	*gēnu* 'knee'
*ĝh	>	k	**ĝhésr̥* 'hand'	*kissar* 'hand'
*g	>	k	**i̯ugóm* 'yoke'	*yukan* 'yoke'
*k^w	>	kw	**$k^w$is* 'who'	*kuis* 'who'
*g^w	>	kw	**g^wénh*$_a$ 'woman'	*kuinna-* 'woman'
*g^wh	>	kw	**g^when-* 'strike'	*kuēn-* 'kill'
*s	>	s	**ses-* 'sleep'	*ses-* 'sleep'
*i̯	>	y	**i̯ugóm* 'yoke'	*yukan* 'yoke'
*u̯	>	w	**u̯eu̯ok-* 'demand'	*wewakk-* 'demand'
*m	>	m	**moldh-* 'speak solemnly'	*māld-* 'speak solemnly'
*n	>	n	**neu̯o-* 'new'	*nēwas* 'new'
*l	>	l	**loukéi̯e/o-* 'kindle'	*lukke-* 'kindle'
*r	>	r	**dóru* 'wood, tree'	*tāru* 'wood, tree'
*n̥	>	an	**n̥sós* 'us'	*anzās* 'us'
*l̥	>	al	**pl̥h*$_2$*i-* 'broad'	*palhi-* 'broad'
*r̥	>	ar	**k̂r̥d-* 'heart'	*kard-* 'heart'
*i	>	i	**$k^w$is* 'who'	*kuis* 'who'
*e	>	e, ē, a, i	**u̯eu̯ok-* 'demand'	*wewakk-* 'demand'
			**ĝénu* 'knee'	*gēnu* 'knee'
			***h_1*éndo* 'within'	*anda* 'within'
			**kes-* 'comb'	*kiss-* 'comb'
*ē	>	ē	***h_1*ēs-* 'sit'	*ēs-* 'sit'
*a	>	a	**atto-* 'father'	*attas* 'father'
*o	>	a ~ ā	**u̯ódr̥* 'water'	*wātar* 'water'
			***h_1*éndo* 'within'	*anda* 'within'
*ō	>	ā	**u̯édōr* 'waters'	*witār* 'waters'
*u	>	u	**i̯ugóm* 'yoke'	*yukan* 'yoke'
*h_1	>	ø	***h_1*es-* 'be'	*es-* 'be'
*h_2	>	h/hh	***h_2*arĝi-* 'white'	*harki-* 'white'
*h_3	>	h	***h_3*oron-* 'eagle'	*hāran-* 'eagle'
*h_4	>	ø	***h_4*órĝhi-* 'testicle'	*arki-* 'testicle'

suggests that Common Anatolian may have inherited the three genders of PIE and then merged the masculine and feminine together.

Two general explanations for these differences between Anatolian on the one hand and the rest of the IE stocks on the other have been advanced. The first explanation assumes that pre-Anatolian had all the categories and distinctions that are traditionally reconstructed for PIE and the absence of the dual, feminine, perfect, etc., represent losses, either induced by the influence of the languages which existed in Anatolia before the IE Anatolian groups arrived (e.g., Hattic in central Anatolia) or because Anatolian was employed as a "trade language" among a variety of different peoples and therefore experienced brusque simplification to facilitate communication between linguistically diverse populations.

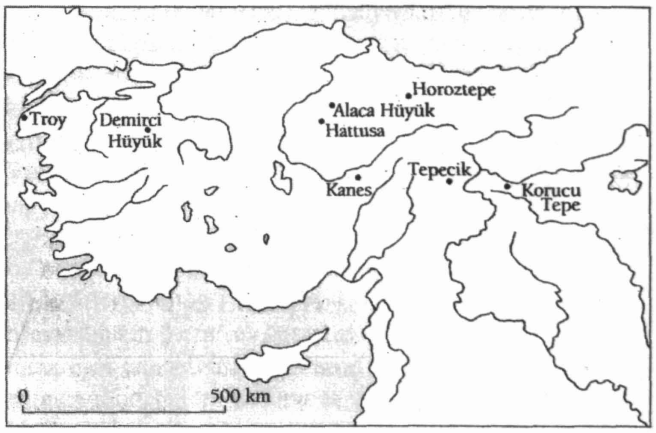
The second explanation assumes that the common ancestor of Anatolian and the other IE stocks did not have these features either and thus that Anatolian is conservative in not having them and the other IE stocks underwent a significant period of common development after the Anatolian group had lost contact with the rest. It was during this period of common development that the dual, aorist, etc., came into being. Proponents of the latter explanation see Hittite and the other Anatolian languages as a group co-ordinate with all the other

IE groups also taken as a single group. The label given to this hypothesis is that of "Indo-Hittite". While not going so far proponents of the first hypothesis also tend to think that the Anatolian group may well have been the first IE group to have separated itself from the rest and that some of the differences distinguishing Anatolian from the rest of IE may be attributed to late features developing only in the remaining PIE after that separation but that most of the differences that set Anatolian apart are the result of purely Anatolian innovations. Certainly belonging in the class of Anatolian innovations is the special ("ergative") case-form in **-ants* that neuter nouns take when they are the subject of transitive verbs.

Anatolian Origins

The search for Anatolian origins is complicated by the fact that when they first enter the historical or written record, the Hittites are already occupants of late Bronze Age urban centers. These towns were already literate, cosmopolitan and included a variety of ethno-linguistic groups. These factors render it nearly impossible to isolate out a particular IE Anatolian "identity" in either material culture or behavior that may be traced to earlier periods of prehistory or to foreign sources. The Hittites, for example, referred to themselves as *Nesa* and their ethnonym derives from the Hatti, who are widely regarded to have been the previous occupants of the Hittite capital of Hattusa. The "true" *Nesa* might then have occupied their early capital Nesa (Kanes) and their language then spread over much of Anatolia when they had secured the throne of Hattusa. The Hittite language would then have served as a chancery language which was spoken by ministers of state, scribes and traders but may have required centuries to become the predominant spoken language of the region.

The evidence of Hattic, a non-IE language which is occasionally related to one of the Caucasian groups (North Caucasian is often suggested), is not abundant but the Hittite archives at Hattusa retain both tablets in Hattic and, more usefully, bilingual texts in Hattic and Old Hittite (or Nesite). Hittite is thus represented as a symbiosis between at least two different languages and cultures, the Indo-European Nesite and the non-Indo-European Hattic from which the Hittites borrowed a number of terms relating to government ('throne', 'lord', 'queen mother', etc.) and religion ('libation', etc.) as well as personal names, including those of a number of their kings. This pattern has generally been interpreted as indicating that at some time in their past the proto-Hittites had either come into contact with and/or superimposed themselves on a Hattic population which was resident in north-central Anatolia. This "Hattic culture", identified archaeologically for the period *c* 2500–2000 BC, gradually found itself placed under Hittite control and absorbed linguistically by the Hittite language which served as the chancery and trade language of central Anatolia. An alternative explanation, that it was the Hattic-speaking peoples who penetrated Hittite territory and influenced its language and ritual before dying out, is seldom contemplated. Only proponents of an indigenous Anatolian homeland for the Hittites (and all other Indo-Europeans) have been forced to suggest such a displacement, such as the Hatti temporarily pushing the Indo-Europeans out of central Anatolia and then later becoming subject to the Hittites when they later returned to regain their earlier homeland. That this latter model is very unlikely is supported by the nature of Hattic loans into Hittite. These loans seem to reflect the indigenous Anatolian urbanism, and the presence of these loans in Hittite would appear to be the result of Hittite occupation of what were originally Hattic towns such as Hattusa, the Ḫittite capital, and Purushanda. Consequently, it seems far more plausible to derive the terms borrowed from Hattic from within Anatolia itself and assign the Hittites to the role of intruder.



Anatolian II Bronze Age sites of Anatolia. The sites of Demirci Hüyük, Tepecik and Korucu Tepe have revealed horse remains from fourth millennium BC contexts. Kanes was the major Assyrian trading post while Hattusa was the Hittite capital (formerly a Hattic town).

The other major non-IE language to occupy Anatolia is Hurrian. Hurrian names are recorded in documents from Babylon and Syria as early as the third millennium BC but as an ethno-linguistic group they do not impinge on IE Anatolians until after the Old Kingdom (*c* 1400 BC) when the Hittites had spread toward upper Mesopotamia and greatly absorbed elements of Hurrian culture, especially religion, where the Hurrian pantheon largely replaced most of the earlier Hittite deities. As Hittite represented a symbiosis between the IE Nesites and the non-IE Hatti, so did the Luvians find themselves in a similar relationship with the Hurrians. With a major non-IE block occupying the region south of the Caucasus to the upper reaches of the Tigris and Euphrates, it is unlikely that this area could be regarded as an earlier homeland of the Anatolians.

In the absence of diagnostic ethnic markers, attempts to trace the Anatolians in prehistoric Anatolia have generally relied on evidence of invasions or destructions in the

archaeological record which might accommodate some model of Anatolian movements prior to their emergence in the historical record. The most recent candidate for an Indo-European intrusion into Anatolia is associated with the destruction level (one meter thick) that marks the end of Troy II *c* 2200 BC. The candidate here, however, remains invisible in that there is no evidence for a new people at Troy in the subsequent period.

Some would attribute a major "destruction horizon" of Early Bronze Age II (*c* 2700–2600 BC) to the arrival of the Anatolians. The evidence is found on most major sites of western Anatolia and it has been suggested that the destruction of early Bronze Age towns as well as the abandonment of sizeable portions of western Anatolia were due to the infiltration of nomads from the northwest. Much later links seen in new ceramic types found in central Anatolia with those known from Troy (V) as well as the diffusion of the megaron, the distinctive 'large-house', have also been cited as evidence for a west to east spread of putative proto-Anatolians. It must be emphasized that as there are no decisive cultural markers that might link such models of population movement specifically with the IE Anatolians (although the horse does first appear in Troy V), it is very difficult to advance such hypotheses with a great deal of confidence. But it might also be said that a series of population movements from northwest Anatolia, presumably initiated in the east Balkans, does conform to one of the widely held solutions to the IE problem that sees PIE origins north of the Black and Caspian seas with subsequent movement southwestward through the Balkans and on into northwest Anatolia.

A fourth or third millennium intrusion from the northeast has also been proposed which relies on the general similarity between tumulus burials in the Ukraine-south Russia, then the Caucasus and finally eastern Anatolia and eventually, at Alaca Hüyük, north-central Anatolia. An advantage of an intrusion from the northeast would be that it would place between the Anatolians and any other IE stocks (or PIE if one prefers the Indo-Hittite hypothesis) a block of non-IE groups of the Caucasus as well as the Hurrians of eastern Anatolia and north Syria (who some suggest may have had Caucasian origins). This model would provide the Anatolians with a conveniently early and solid separation from its linguistic relations and perhaps account for its differences from the rest of the IE continuum. The archaeological evidence here rests largely on the introduction of exotic high-status burials involving large chambers, walled with stone and roofed with logs, then covered with earth and the remains of the heads and hooves of cattle. Such burials, found for example at Alaca Hüyük and Horoztepe, find parallels north of the Black Sea. Some have interpreted these tombs as the burials of Hittite princes who were establishing themselves in the lands of the Hatti.

An earlier intrusion from the Balkans has also been proposed for the period *c* 3500–3000 BC. This model would attribute the foundation of the major Bronze Age culture of northwestern Anatolia, that represented in the foundation of Troy and related sites, to the movement of Anatolians from the east Balkans. That there were connections between the Balkans and Anatolia at this time is not in doubt. Ceramics and other items of material culture show a broad similarity between Troy in Anatolia, the Ezero culture of Bulgaria, and more distantly, the Baden culture of the northern Balkans and adjacent territories. The emergence of stone-built citadels is also to be found from Anatolia (Troy) north across the western portion of the Black Sea (Ezero) and then on around to the steppe and forest-steppe regions of the North Pontic (Mikhaylovka in the Ukraine). A metal-working province also developed that extended from Anatolia to northwest of the Black Sea. The cultural priority of the spread of such features is still a topic of debate although the creation of some form of interaction sphere around the shores of the Black Sea might well have provided a medium for language dispersals.

It has also been suggested that the Anatolians did not come from elsewhere but are autochthonous to Anatolia, at least since the Neolithic period, i.e., the eighth–seventh millennia BC. In this solution Anatolian origins are seen to be closely related to those of the Indo-Europeans in general: the Proto-Indo-Hittite homeland is set to Anatolia and while the Anatolians remained in the homeland, the ancestor of the other IE stocks moved west to develop independently in Europe. This model is directly linked to the generally held belief that the Neolithic economy, i.e., an economy based on the raising of domestic plants and animals, spread from Anatolia into southeastern Europe about 7000–6500 BC. There are other models of IE origins that would have the Anatolians as essentially autochthonous but these generally presume a later date and offer either very poor or non-existent archaeological correlations.

An autochthonous origin for the Anatolians in Neolithic Anatolia *c* 7000 BC is very difficult to support in the face of the reconstructed cultural vocabulary of Proto-Indo-European. Such an early date of separation would require the Anatolian stock to possess only the most archaic Indo-European cultural vocabulary to the exclusion of later innovations evident in the subsequent development of the other Indo-European languages. The rest of (Proto-) Indo-European possesses a cultural vocabulary containing items that should not have been known anywhere prior to the fifth or fourth millennium BC, e.g., words associated with the yoking of animals, wheeled vehicles, wool. But as Anatolian also possesses cognates of these terms that are commonly assigned a late date, it is very difficult to suggest that the ancestor of Anatolian could have been separated from the rest of the IE continuum much before about 4000 BC.

The evidence for Anatolian origins is still very inconclusive and is likely to remain so given the nature of both the archaeological evidence and the possible vectors of language dispersals in Anatolia.

See also AGRICULTURE; INDO-EUROPEAN HOMELAND; INDO-EUROPEAN LANGUAGES; PROTO-INDO-EUROPEAN; SUBGROUPING; TIME-DEPTH; TROY. [D.Q.A., J.P.M.]

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ANATOMY

We are able to reconstruct a very detailed list of PIE words designating parts of the body and its products. Our knowledge of the PIE names for external parts of the body is particularly full and certain; there can be no real doubt that Proto-Indo-Europeans called the 'eye' _*h$_3$ókʷ_ or the 'foot' _*pṓds_. Indeed, such words and similarly "basic" ones such as designations of family relationships within the nuclear family play a central role in any demonstration of PIE family relationship. The larger internal organs are also generally reconstructible. Thus there is no doubt that the 'heart' was _*k̂ḗrd_ for the Proto-Indo-Europeans. However, our knowledge of most of the internal organs is less certain than it is for the external body parts and that relative lack of certainty presumably reflects their somewhat more specialized status as vocabulary items in Proto-Indo-European, knowledge of them being gained through butchery rather than casual observation as an infant. Our ability to reconstruct terms for the smaller internal organs and structures, e.g., nerves, blood vessels, what Matisoff has called "obscure internal channels and connectors", is most restricted. It is most probable that the Proto-Indo-Europeans themselves did not have a very elaborate or specific vocabulary for these portions of the anatomy.

If we adhere to a fairly strict criteria of identifying roots to PIE, then the following anatomical terms may be reconstructed with relative confidence.

External Anatomical Parts

Head: _*k̂r̥rḗh$_2$_ 'head', _*h$_2$ent-_ 'forehead', _*h$_1$éni-h$_3$kʷ-o/eh$_a$-_ 'face', _*k̂ripo-_ 'head and facial hair', _*h$_2$óus_ 'ear', _*h$_x$náss_ 'nose', _*h$_3$ókʷ_ 'eye', _*bhrúh$_x$s_ 'eyebrow', _*h$_{1/4}$óh$_1$(e)s-_ 'mouth', _*ghelun-eh$_a$-_ 'lip', _*smek̂-_ 'chin', _*smók̂u̯r̥_ 'beard', _*ĝénu_ 'jaw'.

Upper Torso and Limbs: _*h$_{1/4}$ómsos_ 'shoulder', _*pl(e)t-_ 'shoulder blade', _*h$_2$épes-_ 'limb', _*h$_2$ek̂s-_ 'shoulder joint', _*h$_2$érh$_x$mos_ 'arm', _*bhā́ĝhus_ 'arm, foreleg', _*dóus-_ 'upper arm, shoulder', _*ĝhés-r-_ 'hand', _*kók̂s-o/eh$_a$-_ 'hollow of major joint', _*mḗ(m)s_ 'flesh', _*monis_ 'neck', _*h$_3$elVn-_ 'elbow', _*h$_3$nobh-_ 'navel', _*h$_3$nogh(u̯)-_ 'nail', _*pant-_ 'stomach, paunch', _*poums_ 'body hair', _*poksós_ 'side, flank', _*psténos_ 'breast', _*kréps_ 'body', _*tu̯éks_ 'skin'.

Lower Torso and Limbs: _*ĝónu_ 'knee', _*k̂lóunis_ 'haunch, hip', _*h$_1$órs(o)-_ 'rear-end', _*h$_2$épes-_ 'limb', _*h$_4$órĝhis_ 'testicle', _*isĝhis-_ 'loins', _*kók̂s-o/eh$_a$-_ 'hollow of major joint', _*kónh$_a$m_ 'lower leg', _*mḗ(m)s_ 'flesh', _*pérsn-eh$_a$-_ 'heel', _*péses-_ 'penis', _*poums_ 'body hair', _*poksós_ 'side, flank', _*putós_ 'vulva, anus', _*pṓds_ 'foot', _*sékʷt_ 'upper leg'.

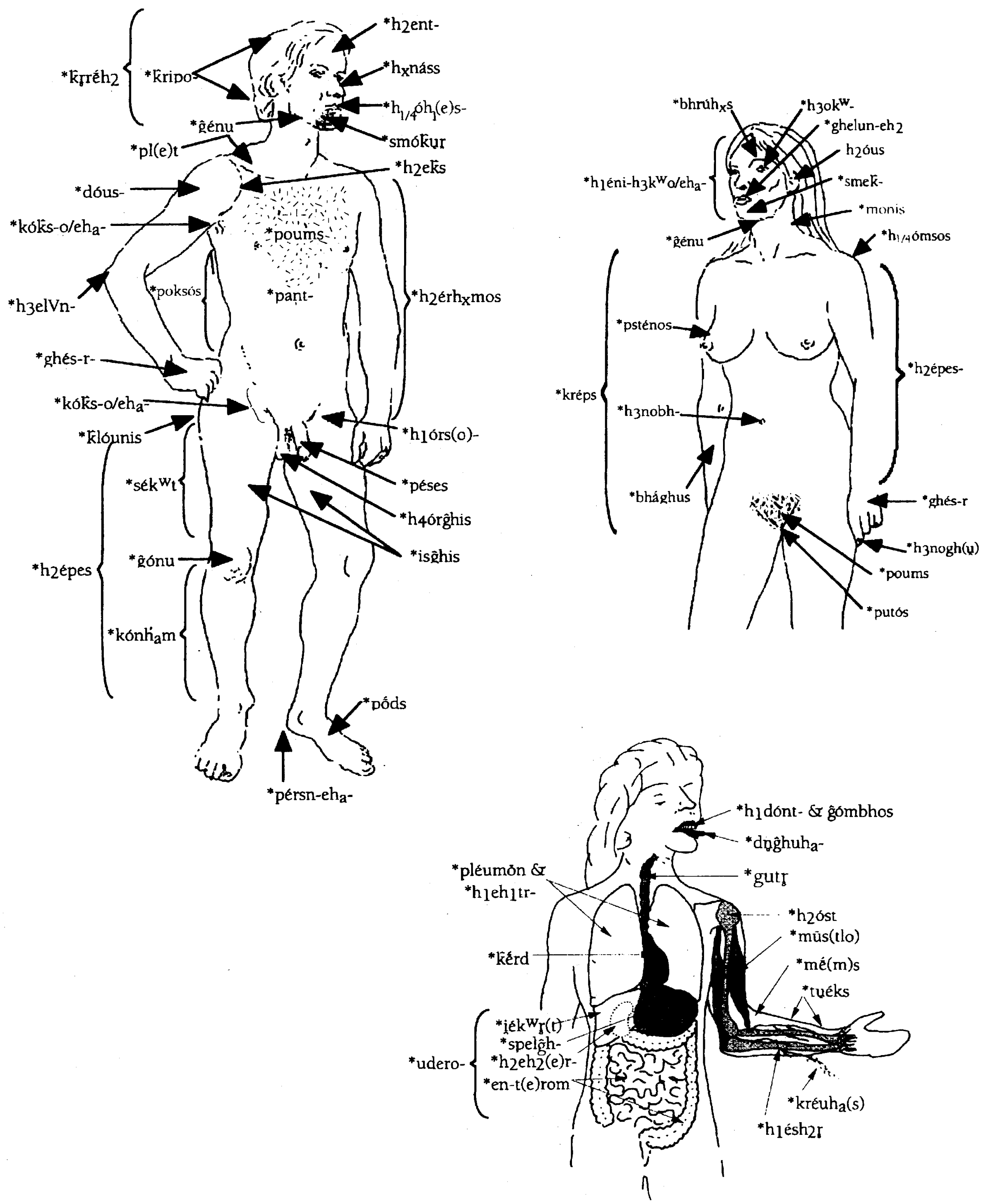
Internal Anatomical Parts

*udero- 'abdomen', _*h$_1$ésh$_2$r̥_ 'blood', _*kréuh$_a$(s)_ 'blood outside the body', _*h$_2$óst_ 'bone', _*h$_1$en-t(e)rom_ 'innards', _*gutr̥_ 'gullet', _*k̂ḗrd_ 'heart', _*h$_2$eh$_2$(e)r-_ 'kidney', _*i̯ékʷr̥(t)_ 'liver', _*h$_1$eh$_1$tr-_ 'lung, interior of body', _*pléumōn_ 'lung', _*mūs(tlo)-_ 'muscle', _*spelĝh-_ 'spleen', _*dn̥ĝhuh$_a$-_ 'tongue', _*h$_1$dónt-_ 'tooth', _*ĝómbhos_ 'tooth'.

There is a relatively long list of reconstructible words for various diseases of the skin and for visible bodily deformities, while there appears to be no reconstructible words for non-visible diseases as anemia, a heart attack, a stroke, etc.

Unlike the case with many other semantic fields, reconstructing PIE body-part terms does not tell us anything about the geographical location of the speakers or of their cultural level. The wealth of reconstructible words for hair may suggest that the Proto-Indo-Europeans were closer to the more hirsute end of the human spectrum than the other end but such knowledge, if true, hardly throws much new illumination on the Proto-Indo-Europeans as a people. More significant is our ability to reconstruct specific, apparently underived, names for the rumen (the first stomach of a ruminant) and either the omasum or abomasum (the third and fourth stomachs of ruminants). This specificity and unanalyzability suggest that the association of Proto-Indo-Europeans with cattle is both old and intimate, reinforcing our notion that animal husbandry, particularly cattle-raising, formed a central part of PIE culture.

In addition to purely physical denotation, human physiognomy was integral to the IE myth of creation, the severed



Anatomy The human anatomy according to the reconstructed Indo-European lexicon.

parts of a primordial giant's anatomy serving as alloforms for both the physical and social world of the early Indo-Europeans. The most common physical correspondences saw the following equations: flesh = earth, bone = stone, hair = plants, blood = water, eyes = sun, mind = moon, brain = clouds, head = heaven, breath = wind. In terms of social tripartition, the head was associated with the priests, the upper torso with the warriors and the lower torso, which included both the lower support limbs and genitalia, was seen as the alloform of the commoners who physically supported society and were most closely tied to such concepts as fertility and sexuality.

See also ABDOMEN; ANUS; ARM; BACK; BLOOD; BODY; BONE; BRAIN; BREAST; BUTTOCKS; COSMOGONY; EAR; ELBOW; ENTRAILS; EYE; FACE; FOOT; GULLET; HAIR; HAND; HAUNCH; HEAD; HEART; HEEL; JAW; KIDNEY; KNEE; LIP; LIVER; LOINS; LUNG; MARROW; MEDICINE; MOUTH; MUSCLE; NAIL; NAVEL; NECK; NOSE; SEXUAL ORGANS; SHOULDER; SIDE; SKIN; SKIN DISEASE; SPLEEN; TONGUE; TOOTH; UTERUS; WOUND. [D.Q.A.]

ANCESTOR GOD

The theme of a deity ancestral to a tribe, people or humans in general is a near universal in mythology although there are no linguistic grounds to reconstruct a specific deity of this nature for the Proto-Indo-Europeans. At best, there is a common Indo-Iranian deity, Indic Vivásvat, Iranian Vīvahvant, who appears to occupy this function. In the *RV* Vivásvat marries Saraṇyū of whom is begotten the Divine Twins, Yama and Yamī, who here only vestigially reflect their role as the progenitors of humans in the IE creation myth. Similarly, the Iranian Vīvahvant is the father of Yama Xšaēta who establishes the first earthly kingdom, a virtual paradise. Both the Indic and Iranian names reflect an Indo-Iranian **Vivasvant-*. In addition to being ancestor to humankind, as father of Manu, Vivásvat is connected with the first sacrifice and this Indic deity, whose name means 'brilliant one', also occupies a clearly "solar" position in early Indic religion. One motif in the story of Vivásvat that is encountered elsewhere is his transformation into a stallion in order to mate with his wife Saraṇyū after she had turned herself into a mare; cf. Poseidōn's 'covering' of Dēmētēr, again in hippomorphic guise, to produce the horse Areion or his coupling with Medūsa to produce Pēgasūs, or in Norse mythology, more distantly and without the hierogamic features, where Loki turns himself into a mare and gives birth to Sleipnir, the eight-legged horse of Óðinn.

The Scythian origin myth produces another Indo-Iranian, here specifically Iranian, ancestor figure in Targitaos (Herodotus 4.5–6), the father of three sons—Lipoxais, Arpoxais and Kolaxais—whose contest for the kingship of Scythia yields the three Scythian peoples and/or social classes. The motif of a common father for the representatives of the three social classes is widespread and is also found, for example, in the Old Norse *Rígsþula* where Rígr (Heimdallr) fathers Þræll, Karl and Jarl, the eponymous representatives of the Germanic social classes (slaves, freemen, nobles).

Kingship in Heaven Theme

The only set of ancestor figures ever to have had at least a putative claim to IE antiquity emerge from the "kingship in heaven" theme, an account of the creation found in Greek (Hesiod's *Theogony*, Apollodorus' *Bibliotheca*, Nonnos' *Dionysiaca*), Hittite (the Kumarbi myths, the "Song of Ullikummi") and Iranian (Firdousi's *Shāhnāmeh*) myth. In the Greek accounts an autochthonous ancestor figure, Ouranos, sires a variety of off-spring which he mistreats; one of them, Kronos, emasculated him with a sickle and reigns in his place. Hearing that he too will be overthrown, he devours his own children until killed by his son Zeus who assumes the kingship of heaven but his rule is only secure when he has dispatched a further challenger, Typhōeus or Tȳphōn, a gigantic monster with snakes growing from his body. In the Hittite version, the initial ancestor Alalu is deposed by his son Anu, and is then deposed by his son Kumarbi who bites his father's loins and thus absorbs his manhood. Kumarbi undergoes a most unwanted pregnancy himself and (apparently) attempts to devour his children but is overthrown by his son Teshub, the "weather" god. Kumarbi attempts to revenge himself on Teshub by engendering the gigantic Ullikummi who is ultimately dispatched by being cut (cf. the castration sequence in the Greek myth) from the shoulder of Upelluri, the giant Atlas-like figure from which he grew. In the Iranian tradition, the sequence of ancestors begins with the fourth Iranian king, Jamshid (the euhemerized Yama Xšaēta, son of Vīvahvant), who is overthrown by Zohak, the second king who, like

The Kingship in Heaven Theme

Version	*1st generation*	*2nd generation*	*3rd generation*	*Monster*
Greek	Ouranos begets	Kronos who castrates Ouranos and begets	Zeus who deposes Kronos but must kill	Tȳphōn, offspring of Kronos
Hittite	Anu begets	Kumarbi who castrates his father and begets	Teshub who deposes Kumarbi but must kill	Ullikummi, offspring of Kumarbi
Iranian	Jamshid is overthrown by	Zohak who is deposed by	Feridun (grandson of Jamshid)	Zohak, monster killed by Feridun
Norse	Buri begets Ȳmir begets	Bör who begets Þrudgelmir who begets	Óðinn who kills Bergelmir	Ȳmir
Phoenician	Ouranos begets	El who castrates Ouranos and begets	Baal who deposes El	

Tȳphōn, has snakes growing out of his shoulder, and rather than castration, saws his father in half. Zohak is then himself overthrown by Jamshid's grandson, Feridun. A possible Old Norse reflection of this motif has been suggested on the basis of the creation myth where the first being, Ȳmir (followed by Þrudgelmir and then Bergelmir), is cut up by the leader of the final generation, Ōðinn.

Although the "kingship in heaven" theme with its three generations of ancestors and motifs of castration or, at least, cutting, and monsters is found in several IE sources, it is also well anchored in Near Eastern mythologies as well, e.g., Babylonian, Phoenician, and its presence in the adjacent IE cosmologies of Greece, the Hittites and Iran (but not India), has suggested that its origins lay in the Near East rather than in Indo-European antiquity.

Elements of the structure of the "kingship in heaven" myth have also been interpreted within an IE context in Jean Haudry's "cosmic" interpretation of IE mythology that envisages a three-heaven model of the IE universe. Here he interprets the order of the deities as representatives of the three heavens: Ouranos is the night sky, Kronos (possibly the 'cutter' < **kr-ono-* from PIE **ker-* 'cut') fills the role of the dawn and twilight to separate the night sky from his successor Zeus, the diurnal sky.

See also COSMOLOGY; GOD. [J.P.M.]

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AND

-kʷe 'and'. [*IEW* 635 (**kᵘ̯e*); Wat 33 (**kʷe*); GI 308–309 (**-kʰᵒe-*); BK 326 (**kʷ[ʰ]a-/*kʷ[ʰ]ə-*)]. OIr *na-ch* 'not', MWels *nac* 'not', Lat *-que* 'and', Goth *-h* 'and', Myc *-qe* 'and', Grk *τε* 'and', Arm *-k'* 'and', Hit *-ki* 'and', Av *ča* 'and', OInd *ca* 'and'. Widespread and old in IE.

-i̯o 'and' [GI 308–309 (**-yo-*)]. Myc *jo-* 'and', Hit *-ya-* 'and', TochA *-yo* (< **i̯o* + **u*) 'with'. Sufficiently widespread to suggest real antiquity in IE.

[D.Q.A.]

ANDRONOVO CULTURE

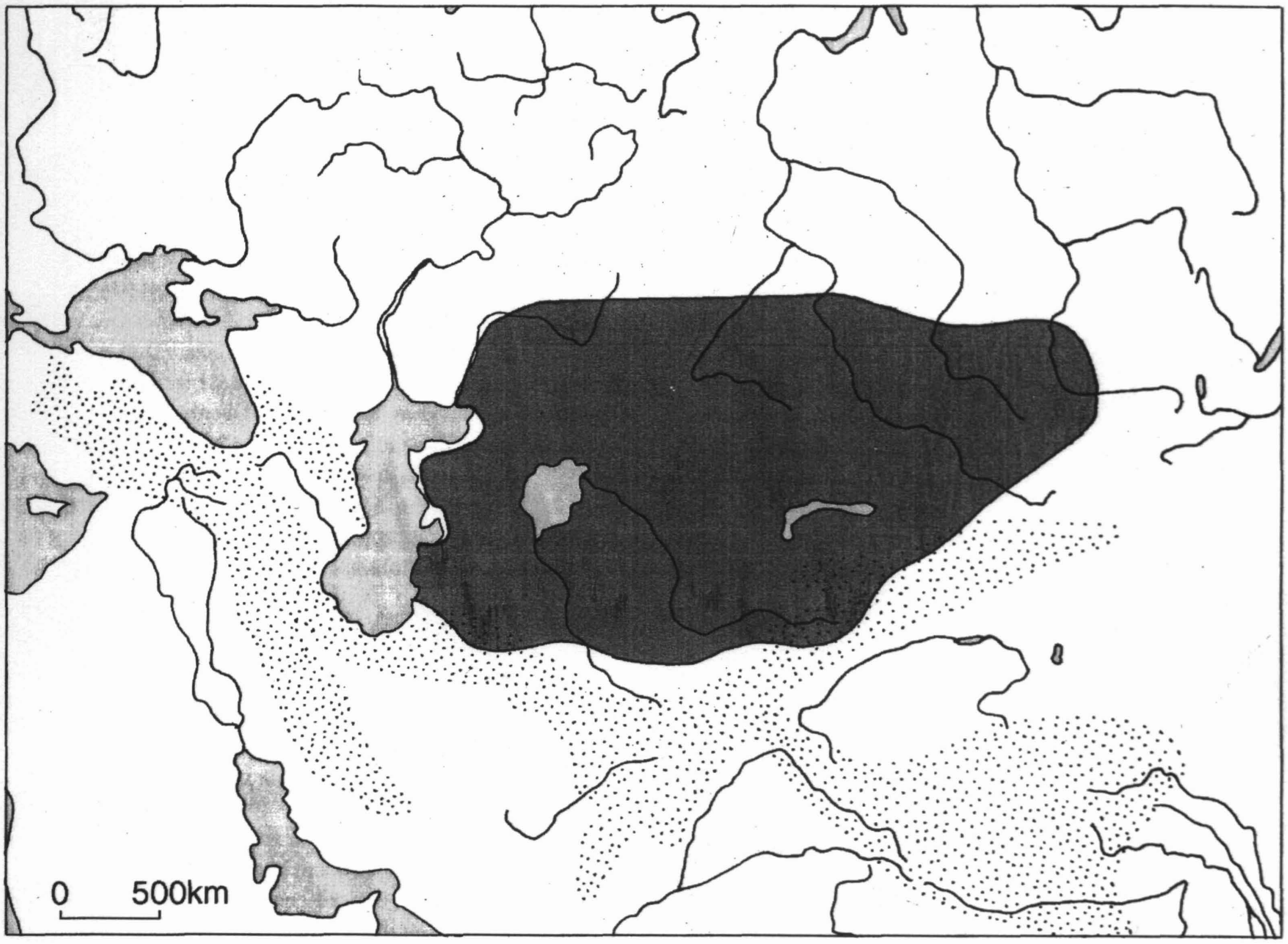
Andronovo is a blanket term for a series of Bronze Age cultures that spanned western Siberia from the southern Urals to the Yenisei river and which are broadly identified with prehistoric Indo-Iranians. The culture dates *c* 2000–900 BC and embraces communities that were largely mobile pastoralists as well as those settled in small villages, especially in Central Asia.

Employing Andronovo as a very broad cover term for Bronze Age cultures of the steppelands east of the Urals, the earliest period is assigned to the Sintashta-Petrovka culture which should begin *c* 2300 BC. The distribution at this time comprises both the northern and western steppe (southern Urals-Kazakhstan) and is marked by the emergence of defensive sites such as Sintashta. Fortifications include ditches and earthen banks as well as timber palisades; an estimated twenty such sites exist. There is a general expansion of the Andronovo phenomenon to the south and east with the Alakul phase (*c* 2100–1400 BC), the Fedorovo phase (*c* 1400–1200 BC) and the final Alekseyevka phase (*c* 1200–1000 BC). South of the Andronovo border in the strict sense are a series of cultures which are believed to have either had an origin in the Andronovo culture (or neighboring Srubna) such as the Tazabagyab culture, or are represented as an amalgam of steppe cultures with those of the oasis cultures of Central Asia, e.g., the Bishkent and Vakhsh cultures.

Andronovo villages, of which at least 150 are known, might range from two to about twenty timber houses (exceptionally up to a hundred), constructed of pine, cedar and birch, the last being one of the few IE arboreal names retained in Indo-Iranian. The houses were usually aligned overlooking the banks of rivers. The large semi-subterranean Andronovan houses (80 to 300 sq m) have been interpreted as the residences of extended families as one would expect from the Indo-Iranians. Livestock included cattle (*c* 46%), sheep/goat (*c* 37%), and horse (*c* 17%), the latter of which was well represented on Andronovo sites and was employed both for riding and traction. The percentage of cattle among the remains tends to be greater than their western steppe neighbors, the Srubna culture. The camel is also present among the faunal remains. The domestic pig is conspicuous by its absence although this absence is entirely predictable in a largely mobile economy.

The Andronovo dead were buried in timber or stone chambers under both round and rectangular kurgans (tumuli). Burials were accompanied by the remains of livestock, wheeled vehicles, cheek-pieces for horses, and weapons, ceramics and ornaments. Among the most spectacular remains are the burials of chariots, dating from *c* 2000 BC if not earlier. The chariots are found with paired horse-teams; the ritual burial of the horse in a "head and hooves" cult is also known.

The association between the Andronovo culture and the Indo-Iranians is supported by their pastoral lifestyle, by the distribution of Iranian place names across the region of their occupation, and by the historical evidence of the first millennium BC which indicates that their territory was occupied by Iranian speaking tribes—Sarmatians, Alans, Saka, etc. Comparisons between the archaeological evidence of the Andronovans and textual evidence of the Indo-Iranians are frequently made and employed to support the Indo-Iranian identity of the steppe tribes. Moreover, current explanations of the process of the "Indo-Iranianization" of greater Iran and the Indian subcontinent rely heavily on a model which requires Andronovo tribes to have settled in Central Asia (the Tazabagyab culture) or, at least, achieved linguistic dominance across the Bronze Age urban centers of the region, such as



Andronovo a. Generalized distribution of the Andronovo culture.

the Bactrian-Margiana Archaeological Complex (BMAC). They also play an important role in explaining the origins of the more pastoral societies such as the Bishkent and Vakhsh cultures. Generally, the earliest Andronovan phases are regarded as co-ordinate with the period of late Indo-Iranian linguistic unity while the later period sees them identified specifically with a branch of the Iranians.

See also Afanasevo Culture; BMAC; Bishkent Culture; Indo-Iranian Languages; Sintashta; Srubna Culture; Tazabagyab Culture; Vakhsh Culture. [J.P.M.]

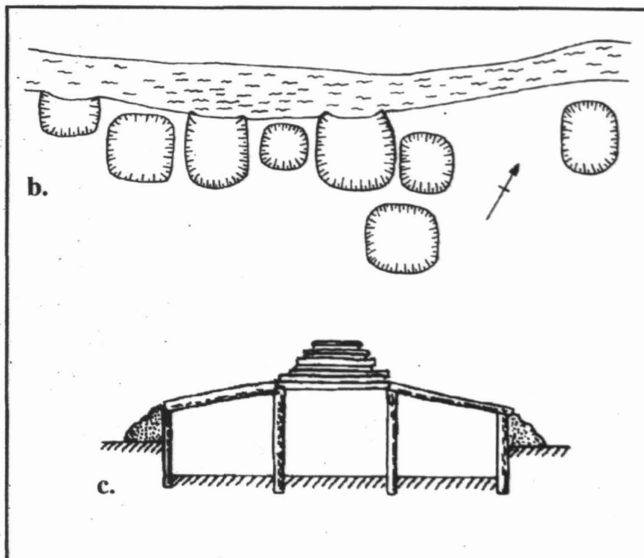
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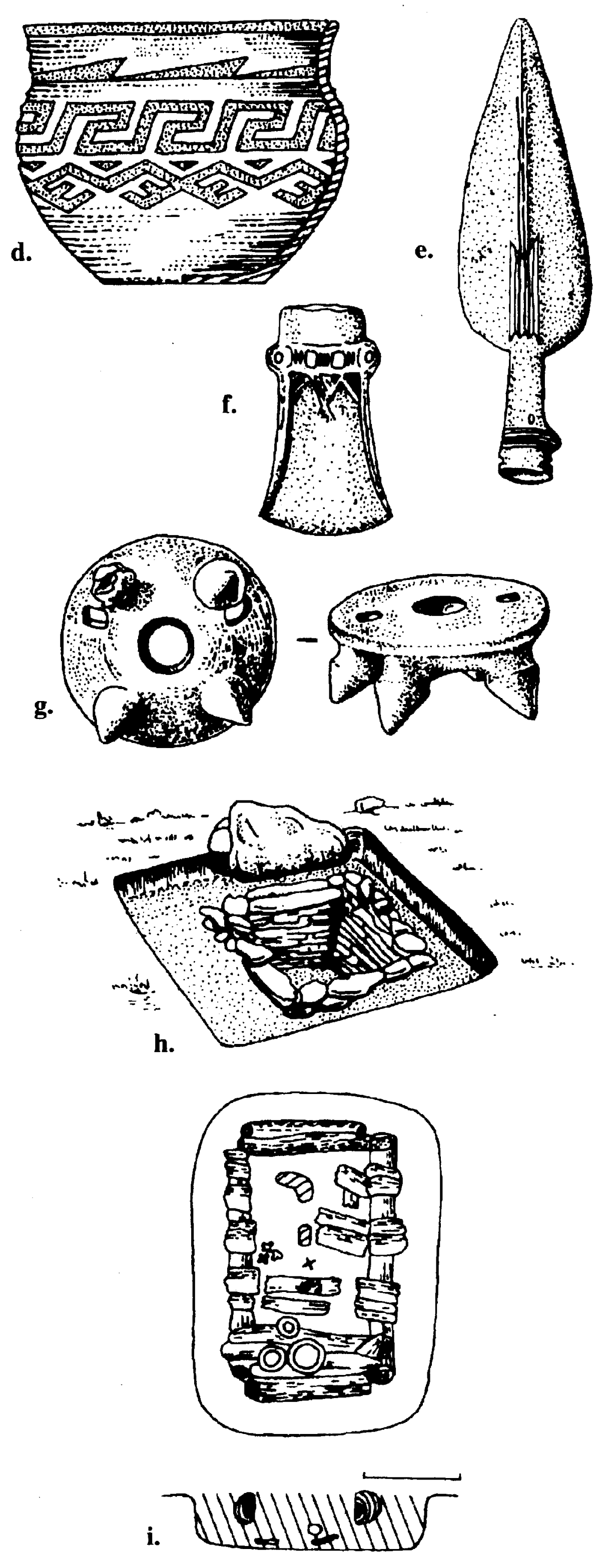
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ANGELICA

k̂u̯éndhro- ~ *k̂u̯éndhno- 'angelica (*Angelica silvestris*)'. [*IEW* 631 (**k̂u̯endh-ro-/*k̂u̯endh-no-*)]. From **k̂u̯éndhro-*



Andronovo b. Plan of the Andronovo settlement at Karkaralinsk; c. Reconstruction of Andronovo house.



Andronovo d. Andronovo vessel (Fedorovo period); e. Spearhead; f. Socketed ax; g Cheek-piece for horse-bridle; h. Stone-lined tomb from Buguly I; i. Timber-built grave from Verkhnaya Alabuga.

we have ScotsGael *contran* 'wild angelica', Lat *combretum* an unidentified aromatic plant, Lith *švéndras* 'reed; reed-mace (*Typha latifolia*)'; from **k̑u̯éndhno-* we have NIr *cuinneog* '*Angelica silvestris*', ON *hvǫnn* '*Angelica silvestris*'. A word of the northwest of the IE world. In Iceland angelica was employed to flavor ale (it is a flavoring agent in Benedictine and Chartreuse liqueurs) while its more common pharmaceutical uses generally include ameliorating indigestion and anemia. It also had a reputation for warding off evil spirits and plague during the Middle Ages. In the wild form, i.e., *Angelica silvestris*, it is found all over Europe.

See also PLANTS. [D.Q.A.,J.P.M.]

ANGER

bhorg^{w}os 'angry, violent'. [*IEW* 163 (**bhorg^{u}o-s*)]. OIr *borb* 'stupid, violent', Latv *bar̃gs* 'hard, unfriendly', Arm *bark* 'angry, violent'. At least a word of the west and center of the IE world, though an "expressive" word that owes much of its shape perhaps to onomatopoeic factors.

?*k̑et- 'be angry'. [cf. *IEW* 534 (**k̑at-*); cf. Wat 27 (**kat-*); cf. GI 126 (**k^{h}at^h-*); BK 273 (**k[^{h}]at[^{h}]-/*k[^{h}]ət[^{h}]-*)]. Grk *κότος* 'spite, anger', OInd *śátru-* 'enemy'. OInd *śátru-* is often taken to be from **k̑h$_a$et-* 'fight' instead. It is possible that the **k̑et-* reconstructed here is but a phonological and semantic variant (**k̑h$_a$ot-*?) of **k̑at-* (or **k̑h$_a$et-*).

?*h$_1$óistro/eh$_a$- 'anger, any strong feeling' (< *'that which rouses one to motion'). [*IEW* 300 (**ois-tro-*); Wat 16 (**ois-tro-*); Buck 16.42]. Lith *aistrà* 'passion', Grk *οἶστρος* 'gadfly, sting, anger'. From **h$_1$eis-* 'set in motion'. If not the result of independent creations, a word confined to the center of the IE world.

?*rabh- '± ferocity'. [*IEW* 852 (**rabh-*); Wat 53 (**rebh-*)]. Lat *rabiēs* 'violence', OInd *rábhas-* 'ferocity'. The underlying verb is attested in OInd *rábhate* 'seizes, takes'. It is not certain that these words belong together and TochA *rapurñe* 'desire, cupidity', sometimes cited here, should be rejected on semantic grounds. If the Latin–Old Indic correspondences are accepted, this would seem to suggest at least late PIE status.

See also FIGHT. [D.Q.A.]

ANIMAL

Gathered under this heading are those words we can reconstruct for PIE whose natural translation in English would be either 'animal' or some generic subset of animals, e.g., 'wild animal' or 'small animal'. With the probable exception of the dialectally restricted **g^{w}i̯éh$_3$u̯iom*, however, all of these words for 'animal' reflect the English meaning of 'non-bird', 'non-fish', etc., i.e., that meaning where animal is the equivalent of the more formal 'mammal', rather than the sense of 'any member of the (biologists') animal kingdom'. Since most languages do not have a word with the latter meaning, the meanings we are able to reconstruct for these PIE words occasion no surprise. Actually, what is a little surprising is that some of the dialects of PIE, those at least ancestral to Greek and Tocharian, apparently did have a word for 'animal'

in the larger, more generic, sense.

k^{w}etu̯or-pod- 'animal' (i.e., 'quadruped'). [*IEW* 643; GI 395]. Lat *quadrupēs* 'quadruped, animal', Umb *petur-pursus* 'quadruped, animal', Lith *ketur-kõjis* 'quadruped, animal', Myc *qe-to-ro-po-(d)-* 'quadruped, animal', Grk *τετράπους* 'quadruped, animal', Alb *shtazë* (< **k̑^{w}etu̯or-(p)di̯eh$_{a}$-*) 'animal', OInd *cátuṣpad-* 'quadruped, animal', TochB *śtwerpew* 'quadruped, animal'. The exact shape of this word in PIE is difficult to reconstruct because as a more or less transparent compound there has been a tendency to rebuild it if, by action of regular phonological changes, the compound became less transparent. Nonetheless, this is clearly a word that is both widespread and old in IE and one that distinguished animals from humans on the basis of physical attributes.

ĝhu̯ḗr (gen. ***ĝhu̯éros***) 'wild animal'. [*IEW* 493 (**ĝhu̯ē̆r-*); Wat 23 (**ghwer-*); GI 390 (**g̑^{h}wer-*); Buck 3.11; BK 236 (**guw-ir-/*gow-ir-/*guw-er-/*gow-er-*)]. Lat *ferus* (< **ĝhu̯er-o-*) 'wild', *fera* 'wild animal', *ferōx* 'wild, bold, fierce' (< **ĝhu̯er-h$_{3}$ōk^{w}s* 'wild-eyed' or 'wild-looking'), OPrus (acc. pl.) *swīrins* 'wild animals', Lith *žvėrìs* (pl. *žvėres*) 'wild beast', Latv *zvȩ̄rs* 'wild animal', OCS *zvěrĭ* 'wild animal', Grk *θήρ* 'wild animal', TochB *śerwe* 'hunter' (< **ĝhu̯ēr-u̯o-* 'he of the wild animal'), *śerītsi* (< **ĝhu̯ēru̯(e)i̯e/o-*) 'to hunt'. Widespread and old in IE. This word and the next divided the world of animals into "wild" and "domesticated" categories.

pék̑u 'livestock'. [*IEW* 797 (**pék̑u-*); Wat 48 (**peku-*); GI 391 (**p^{h}ek̑^{h}u-*); Buck 3.15]. Lat *pecu* ~ *pecus* 'cattle, livestock', *pecūnia* 'money', *pecūlium* 'possessions', ON *fē* 'livestock, property, money', OE *feoh* 'livestock, property, money' (> NE *fee*), OHG *fihu* 'livestock, property, money', Goth *faíhu* 'money, movable goods', OPrus *pecku* 'cattle', Lith *pẽkus* ~ *pẽkas* 'cattle' (with Baltic as if with PIE *-*k*- rather than *-*k̑*-, perhaps because the word is borrowed from some western IE group), Av *pasu* 'cattle', OInd *páśu* 'cattle'. Widespread and old in IE. Nowhere does the primary meaning of this word seem to mean 'sheep'; thus the connection sometimes made with the verbal root **pek̑-* 'pluck, shear' (that is *'the animal with wool') seems unlikely. This word and the previous one seem to have divided the animals, more particularly the mammals that the PIE speakers knew, into two fairly neatly divided groups, domestic and non-domestic. Since a person's livestock, his moveable wealth, was apparently the major form which wealth took in early IE society, it is not surprising that we find the semantic transition from 'livestock' > 'moveable wealth' > 'wealth (in general)'. This word also designated (domesticated) animals as opposed to human from the point of view of the social order. Thus Av *pasu vīra* 'animal(s) and man/men' is a formula for representing the community's wealth—the same formula appears in Umb *u(e)iro pequo* (cf. OInd *virapśá-* 'abundant of people and animals' = Old Persian (Elephantine) personal name *Wrpš*). In Old Indic *páśu* might even, on occasion, include men, as the 'biped *páśu*', along with horses, cattle, sheep, and goats which were designated as the five sacrificial animals (*Atharvaveda* 11.2,9).

g^{w}i̯éh$_{3}$u̯i̯om 'animal' (< *'living thing'). [*IEW* 468 (**g^{u}i̯ō-*); Wat 24 (**g^{w}yō-yo-*); cf. GI 387; Buck 3.11]. Grk *ζῷον* 'animal', TochB *śaiyye* 'sheep'. From **g^{w}i̯eh$_{3}$-* 'live'. Though found only in Greek and Tocharian it is unlikely to represent two independent creations. Possibly of late PIE date.

léuh$_{x}$ōn (gen. ***luh$_{x}$nós***) 'animal' (< *'the one of the hunt'). [cf. GI 427]. Grk *λέων* 'lion' (< *'the hunter'), TochA *lu* 'animal', TochB *luwo* 'animal'. Cf. OCS *lovŭ* 'hunt', *loviti* 'to hunt'. (From Grk *λέων* was borrowed Lat *leō*, whence the word for 'lion' in most western European languages.) Like the previous word, possibly of PIE date.

h$_{2/3}$u̯édr̥ (gen. ***h$_{2/3}$u̯édnos***) 'creatures, (wild) animals, wolves'. [cf. GI 413 (*weit'-n-*); Puhvel 3:355]. ON *vitnir* (< **h$_{2/3}$u̯edni̯i̯os*) 'animal; wolf', Hit *huetar* (gen. *huetnas*, pl. *huitār*) 'creatures, (wild) animals, wolfpack'. Though only certainly attested in these two stocks, the archaic heteroclitic stem argues strongly for PIE antiquity. Probably from **h$_{2}$u̯ed-* 'be alive', otherwise seen only in Luvian. Possibly belonging here too are certain Slavic words for werewolf: Slov *vedanec* (~ *vedomec* ~ *vedavec*) 'werewolf', Ukr *viščun* 'werewolf', OCzech *vědi* (pl.) 'she-werewolves', though particularly in Ukrainian this word has been subject to phonological deformation. The agreement of Germanic and Hittite would seem to assure a reconstructed meaning '(wild) animal' but the association with 'wolf' is obviously very old (as the 'wild animal par excellence'?).

Small Animal

meh$_{1}$l- 'small animal'. [*IEW* 724 (**mēlo-* ~ **smēlo-*); Wat 41 (**mēlo-* ~ **smēlo-*); Buck 3.11]. OIr *mīl* '(small) animal', Wels *mil* 'animal', NDutch *maal* 'young cow', Rus *malŭ* 'young sheep', Grk *μῆλον* 'small animal; sheep', Arm *mal* (< **mh̥$_{1}$lo-*) 'sheep, ram'. Related adjectives are: Lat *malus* 'bad', Osc *mallo-* (with expressive gemination) 'bad', OCS *malŭ* (< **moh$_{1}$lo-*) 'small'. In Germanic we have also **smh̥$_{1}$l-*: ON *smali* 'small domestic animals, esp. sheep', OE *smæl* 'small, little' (> NE *small*), OHG *smal* 'small, little', Goth *smals* 'small, little'. Widespread and old in IE. The meaning of this word in Slavic, Greek and Armenian parallels NHG *kleinvieh* 'small domestic livestock' (cf. Rus *mélkij rogátyj skot* 'small horned livestock'), i.e., sheep, goats, as opposed to cattle, a distinction made only in the sphere of stock-breeding. But it is uncertain that such a meaning can be attributed to PIE antiquity as the Celtic examples mean only a small animal, i.e., Old Irish *mīl* can specifically refer to a hare or a louse while Wels *mil* usually designates a non-domestic animal.

Large Animal

steuros 'large (domestic) animal'. [*IEW* 1010 (**steu-ro-*); Wat 65 (**steu-ro-*); GI 439 (**st^{h}euro-*); Buck 3.21–3.24]. OE *stēor* 'young bull, steer' (> NE *steer*), *stirc* (< **steur-iko-*) 'calf', OHG *stior* 'young bull, steer', Goth *stiur* 'calf, young steer' (the meaning of the Germanic word has been influenced by

the Germanic descendants of **tauros* 'aurochs; bull'), Av *staora-* 'large (domestic) animal (i.e., horse, ass, cow, camel)', MPers *stōr* 'draft animal, horse'. Though not widely attested, the geographical spread of those attestations suggests PIE status for this word.

Animal Young

u̯ételos 'yearling'. [*IEW* 1175 (**u̯et-elo-*); Wat 78 (**wet-*); Buck 3.24; BK 503 (**wat*$[^h]$*-/*wət*$[^h]$*-*)]. Lat *vitulus* 'calf, young of animal, yearling', Umb *vitlo-* 'calf', Grk *ἔτελον* ~ *ἔταλον* 'yearling', OInd *sa-vātára-* 'having the same calf'. Cf. Osc *Víteliú* 'Italy', whence, via Greek, Lat *Ītalia* 'Italy' < *'land of young cattle' (named for the god of cattle, Mārs). A derivative of **u̯étes-* 'year'. Sufficiently widespread to reflect probably at least a late PIE term. Similar derivatives of **u̯étes-* are to be found in OIr *feis* (< **u̯et-si-*) 'sow, young female pig', Wels *gwŷs* 'sow, young female pig', Alb *viç* (< **u̯éteso-*), OInd *vatsá-* 'yearling, calf'; and in ON *veðr* 'wether', OE *weðer* 'wether' (> NE *wether*), OHG *widar* 'wether', Goth *wiþrus* 'lamb' (Gmc < **u̯et-ru-*).

?*per- 'offspring (of an animal)' < *'what is brought forth'. [*IEW* 818 (**per-*); Wat 50 (**per-*); BK 39 (**p*$[^h]$*ir-/*p*$[^h]$*er-*)]. Wels *erthyl* 'abortion', ON *farri* 'bullock, steer', OE *fearr* 'bullock, steer', OHG *far* 'bullock, steer' (< Proto-Gmc **farzán-*), MHG *verse* (< **fársī-*) 'heifer', OCS *za-prŭtŭkŭ* 'wind [i.e., unimpregnated or imperfect] egg', Czech *s-pratek* 'newly born calf', Grk *πόρις* ~ *πόρτις* ~ *πόρταξ* 'calf, heifer', Arm *ort'* 'calf', OInd *pṛthuka-* 'child; young of an animal'. From **per-* 'appear; bring forth'. Though derivatives of this verbal root with the meaning '± young animal' are common, they appear to be very largely independent creations in the stocks where they are attested.

?*ĝhim- 'yearling'. [*IEW* 426 (**ĝhimo-*)]. Lat *bīmus* 'two-year old', ON *gymbr* 'one year old sow', Grk *χίμαιρα* 'goat'. Probably independent derivatives of **ĝhimós* 'winter'.

See also Animal Cry; Bird; Birds; Dragon; Egg; Fish; Fly; Frog; Leech; Life; Mammals; Shellfish; Snail; Snake; Tortoise; Year; Worm. [D.Q.A.]

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ANIMAL CRY

?*gher- '± cry (of animals or birds)'. [*IEW* 439 (**gher-*); Wat 22 (**gher-*); BK 235 (**gur-/*gor-*), 350 (**Gar-/*Gər-*)]. Lat *hirrīre* 'howl like a rabid dog', ON *garpr* 'warlike man', RusCS *gŭrkati* 'coo', Slov *gr̂gati* 'gurgle, coo', OInd *ghargharа-* 'gurgling'. A collection of onomatopoeic words, likely to be independent creations in the stocks where they occur.

?*bhrem- '± make a noise (of animals)'. [*IEW* 142–143 (**bherem-*); Wat 9 (**bhrem-*); BK 33 (**bar-/*bər-*)]. Wels *brefu* 'bleat', Lat *fremō* 'growl, roar', OE *bremman* 'roar', OHG *breman* 'roar', NHG *brummen* 'growl, grumble, hum', Pol *brzmieć* 'resound', OInd *bhramará-* 'bee'. Perhaps reflecting a PIE onomatopoeic word for some sort of buzzing or roaring sound. It is also possible that each stock that shows a word of this phonological shape has independently created it.

See also Bark; Bird Cry; Bleat; Dog; Grunt; Noise. [D.Q.A.]

ANOINT

h₃engʷ- 'anoint (with salve), (be)smear'. [*IEW* 779 (**ongᵘ̯-*); Wat 46 (**ongʷ-*); GI 609 (**ong*^{ho}*-*)]. Lat *ung(u)ō* '(be)smear, anoint', Arm *awcanem* 'anoint', OInd *anákti* 'anoints'. Cf. OIr *imb* 'butter', OHG *ancho* 'butter', OPrus *anctan* 'butter', OInd *áñjas-* 'salve, ointment'. Widely enough distributed to assure its PIE status. The range of meanings suggests the multiple uses of the substance which not only included a foodstuff but also something to be rubbed on bodies.

See also Smear. [D.Q.A.]

ANT

moru̯is ~ ***morm-*** ~ ***mouros*** 'ant'. [*IEW* 749 (**moru̯ī-*); Wat 43 (**morwi-*); GI 149 (**morw-*)]. From **moru̯i-*: OIr *moirb* 'ant', Wels *myr(ion)* 'ant', OCS *mravi* 'ant', Av *maoirī* 'ant'; from **morm-*: Lat *formīca* 'ant', Grk *μύρμος* 'ant'; from **mouro-*: ON *maurr* 'ant' (whence ME *mīre* 'ant' and NE *pismire*), CrimGoth *miera* 'ant'. A further variant **u̯orm-* is seen in Grk (Hesychius) *ὄρμικας* 'ants', OInd *valmīka-* 'ant', *vamrá-* ~ *vamrī́-* 'ant', *vamraká-* 'small ant', TochB *warme* 'ant' (a phonologically similar form appears as 'worm' in a number of IE stocks). The number of phonological variants suggest that the designation for the 'ant' in IE traditions was more than usually subject to phonological deformation (via metathesis, etc.) owing to some sort of affective semantics of the word. Though it is hard to reconstruct the exact PIE shape of this word, it is clearly of PIE date.

See also Insects. [D.Q.A.]

ANUS

pṛh₃k̂tós 'anus'. [*IEW* 846 (**prōk̂to-*); Wat 53 (**prōkto-*)]. Grk *πρωκτός* 'anus', Arm *erast-ank'* (pl.) 'anus'. Its unanalyzability suggests great age, but its geographical distribution is compatible with a late, dialectal IE status. Probably related is OInd *plāśí-* (< **proh₃k̂í-*) 'part of entrails'.

See also Anatomy; Buttocks; Entrails. [D.Q.A.]

ANY *see* SOME

APART

sen-i/u- 'apart'. [*IEW* 907 (**seni-/u-*); Wat 57 (**sen-*); GI 104; Buck 12.23]. OIr *sain* (< **s*$_e$*n-i-* 'different') 'especially', OWels *han* 'other', Wels *o-han-* 'from', *hanner* 'half' (< *'the

separated [part]'), Lat *sine* (< **sn̥ni*) 'without, out of, outside', Hit *sanizzis* 'excellent', Av *hanarə* 'except, without', TochA *sne* 'without', TochB *snai* 'without'. Zero-grade suffixed form **sn̥-ter* 'alone, separate': ON *sundr* 'asunder', OE *sundor* 'asunder, apart; differently' (cf. NE *sunder*), OHG *suntar* (adv.) 'alone, apart, asunder', MHG *sunder* (prep.) 'without', Goth *sundrō* 'apart', Grk *ἄτερ* 'except, without, far from'. Compare also OInd *sanutár* 'apart, except for', *sanitúr* 'apart from', Geographic distribution assures PIE status.

***dis-** 'apart, asunder'. [*IEW* 232 (**dis-*); BK 119 (**t'əy-/*t'əy-*)]. Lat *dis-* 'apart', Goth *dis-* 'apart', Alb *sh-* 'apart', Grk *διά* (< **dis-h₂e*) 'through, on account of'. Presumably a reduced form of **du̯is-* 'in two'.

***u̯i-** 'apart, in two, asunder'. [*IEW* 1175–1176 (**u̯ī-*); Wat 78 (**wi-*); Buck 13.13]. Av *vi-* 'apart, off', OInd *vi-* 'asunder', TochA *tpuk-* 'hide' (< **u̯i-dhug-* 'hide away'). Cf. also Lat *vitium* (< *u̯i-ti-om*) 'defect' and **u̯iteros*: ON *viðr* 'against', OE *wiðer-* 'against', OHG *widar* 'against', Goth *wiþra* 'against', Av *ōiθra* (< **viθra*) 'separated', OInd *vítara-* 'leading further'. Also grouped here by some are words in Balto-Slavic and Indo-Iranian meaning '± all': OPrus *wissa* 'all', Lith *vìsas* 'all', Latv *viss* 'all', OCS *visĭ* 'all', Rus *vesĭ* 'whole', Av *vispa-* 'whole, every; (pl.) all', OInd *víśva-* 'whole'. The presumed semantic development is something on the order of 'plurality as unity'.

See also ADPREPS. [A.D.V., D.Q.A.]

APPEAR

***kʷek̑/ĝ-** 'appear'. [*IEW* 638–639 (**ku̯ek̑-*); Wat 33 (**kʷek-*); GI 132 (**kʰoek̑ʰ-*)]. OCS *kažǫ* 'show', Grk *τέκμαρ* 'sign', *τέκμωρ* 'end, goal', Av *čašte* 'teaches', *ākasat̰* 'perceived', *xšā-* 'look at', *čašman-* 'eye', OInd *cáṣṭe* 'sees, appears', *kāśate* 'appears, is brilliant, shines', *kśā-* 'look at'. Perhaps TochA *kākmärtik*, TochB *kamartike* 'ruler' (< *'brilliant one'?) belong here as well. Certainly a word of the center and east of the IE world.

***prep-** 'appear'. [*IEW* 845 (**prep-*); Wat 53 (**prep-*); GI 83 (**pʰrepʰ-*)]. OIr *richt* 'form', Wels *rhith* 'species' (Celt < **pr̥ptu-*), Grk *πρέπω* 'appear', Arm *erewim* 'be evident, appear'. Perhaps OHG *furben* 'clean' belongs here as well. A word of the west and center of the IE world.

***u̯eik-** 'appear (whether the appearance is into the speaker's sphere of reference or another's)'. [cf. *IEW* 1129 (**u̯eik-*); BK 510 (**wuy-ik[ʰ]-/*woy-ik[ʰ]-*)]. OE *wīg* ~ *wīh* ~ *wēoh* 'image, idol', Lith *výkti* 'come, go', *į-výkti* 'happen, occur; come true, be fulfilled' (< *'come into sight'), Latv *vīkt* 'prepare', Grk *εἶκε* 'it appeared good', *ἔοικε* (< **u̯eu̯oike*) 'it is proper, suitable', *ἴσκω* (< **u̯ik-sk̑e/o-*) 'compare', *εἰκών* 'image, likeness' (borrowed > NE *icon*), *εἰκός* 'likely, probable; reasonable, equitable', *ἐοικώς* ~ *εἰκώς* 'seeming, like; meet, likely, probable', Av *visaiti* 'presents oneself', OInd *viśati* 'enters'. Widespread and old in IE.

See also SEE; VISIBLE. [D.Q.A.]

APPLE

***h₂ebVl-** (nom. ***h₂ébl̥** or ***h₂ébōl**?) 'apple (*Malum* spp.)'. [*IEW* 1–2 (**ābel-*); Wat 1 (**abel-*); GI 548–551 (**amlu-*); Fried 57–64; Camp 163–166]. OIr *ubull* (*DIL uball*) 'apple', Wels *afal* ~ *afall* 'apple', OWels *Aballo* (town name), Osc *Abella* (the name of a city in Campania which Vergil calls *malifera*, i.e., 'apple-bearing'), ON *epli* 'apple', OE *æppel* 'apple' (> NE *apple*), OHG *apful* 'apple', CrimGoth *apel* 'apple', OPrus *woble* 'apple', Lith *obuolỹs* ~ *óbuolas* 'apple', Latv *âbuol(i)s* 'apple', OCS *(j)ablŭko* 'apple', Rus *jábloko* 'apple'. Cf. the names for the apple-tree: OIr *aball* (< **abalnā*), OWels *aball*, ON *apaldr*, OE *apuldor*, MHG *apfalter*, OPrus *wobalne*, Lith *obelis*, Latv *âbels* ~ *âbele*, OCS *(j)ablanŭ*, Rus *jáblon*. V. Blažek suggests that we add certain Indo-Iranian forms here also. Thus Pashai *wālī* 'apple' is perhaps from a Proto-Indic **abalikā-* or the like but such a form is otherwise isolated within Indic and the connection remains speculative. There are a number of East Iranian forms, however, which seem very promising, e.g., Sogdian *'mn'k* 'apple', Pashto *maṇá* 'apple', Shughni *mūn* 'apple', from Proto-Iranian **amarnaka-* ~ **amarnā-*. If we assume an assimilation in nasality from **b..n* to **m..n* we can reconstruct an earlier Iranian **abarna/ā-* from PIE **h₂ebe/olne/eh₂-*. Gamkrelidze and Ivanov suggest that OInd *āmrá-* 'mango (*Mangifera indica*)', *āmrātaka-* 'hogplum (*Spondias mangifera*)', Ashkun *āmār* 'pomegranate (*Punica granatum*)' belong here and we should add Kashmiri *ambarⁱ-trel* 'a kind of small apple'. However, in these cases both the semantic (except in Kashmiri) and phonological distance invites caution. A semantic specialization of pre-Indic **amla-* or Proto-Indo-Iranian **amra-* 'sour' would be at least as plausible a source for 'pomegranate' or 'apple'. If the East Iranian and Indic data is considered cognate we can reconstruct a word of at least late PIE date.

***meh₂lom** 'apple (*Malum* spp.)'. [Wat 41 (**mēlon*); GI 552 (**maHlo*); Fried 57–64]. Lat *mālum* 'apple' (Greek loanword?), Alb *mollë* 'apple' (Latin or Greek loanword?), Grk (Homer) *μῆλον* 'apple, cheek', Hit *mahla-* 'grapevine?, apple?' A word of the IE center. Often, but incorrectly, put here are TochA (pl.) *malañ* 'nose', TochB (pl.) *meli* 'nose'; they do not mean 'cheek(s)' as sometimes supposed and a PIE **meh₂lo-* should have given TochA **mālan*, TochB **māli*.

Of the two putative IE terms for this tree/fruit, **h₂ebVl-* is based on fairly good correspondences in five, probably six stocks, as in OIr *ubull* 'apple' and the Italic (Oscan) town *Abella*, 'of many apples' (i.e., as in English 'Appleton'). The medial *b* has indicated a borrowing to most scholars and the Italic cognate has been dismissed as a "northernism". With the possible East Iranian data not a part of the equation, it has often been thought that it may reflect a residual non-IE substrate term in north(central) Europe. If the Iranian words do belong, as seems most probable, it is still possible that we have here an early borrowing, either from Semitic, or from the same source as such Semitic words as Arabic *'ubullat-* 'arak, fruits; dried figs pressed in a mass', Tigré *'obāl* 'tamarisk'. Taking a very different position, Gamkrelidze and Ivanov have argued that the European terms are cognate with Hit *sam(a)lu-* 'apple' and that the underlying PIE form should then be

*šamlu- 'apple'. They have also noted the similarity between the Hittite form and the Hattic *šawat* 'apple, apple tree' which, under observed sound changes elsewhere seen in Anatolian (i.e., Hattic *t* ~ Hit *l*, cf. Hattic *tabarna* but Hit *labarna*), could have been identical with the Hittite form. Still, the likelihood that the Hittite word is a borrowing from Hattic and thus unrelated is very high. The Indic and Nūristāni words are somewhat more probably related, but both the semantic and phonological distance invites caution.

The second term, *meh$_2$lo-, is fragilely attested by forms in four stocks, some of them semantically tenuous (albeit credible). Otherwise, the Hittitologists involved insist that Hit *mahla-* meant 'grape(vine)' but the actual evidence says it could also have meant 'apple' or both, or simply the fruit of a tree or bush. As with the first term, some would also dismiss *meh$_2$lo- as a (southern) substrate term and place the 'apple' beyond the ken of the earliest PIE society. The two forms are more or less similar although they may not be historically related at all in terms of a strict phonologically based position. Or they may be cognate: *a* (a laryngeal?), plus *l* plus a bilabial (note shifts between *m* and *b* in other places in some of these stocks). A staple PIE food like nuts and milk, the apple was probably denoted by one form which cannot be fully recaptured. In addition to the two IE terms, a much wider areal background has been suggested by the similarity of other 'apple' terms across Eurasia, e.g., Chuvash *olma* 'apple', Mongolian *alima* 'apple'.

Since the Mesolithic, i.e., before PIE times, the wild apple was spread across Europe, especially to the north, and is relatively ubiquitous on Neolithic and Bronze Age sites from Ireland to the Ukraine, including Anatolia and the Caucasus. Evidence for the domestication of the apple from its wild predecessor, *Malum sylvestris*, is difficult to establish and may theoretically lie anywhere in the temperate zones of Europe, west and central Asia. Since the cultivation of apples required grafting rather than simple vegetative propagation, it is held unlikely that the apple was among the earlier domestic fruits and the date of its presumed domestication tends to fall after the dispersion of the Indo-Europeans. Since the earliest evidence for grafting derives from China (citrus trees) and this is also the region of greatest genetic diversity of the apple, it is possible that the late domestication of the apple derived from western China.

The linguistic evidence notwithstanding, the wild apple is found so widely (and that includes Mesolithic contexts) that it is difficult to imagine a geographical situation for the earliest IE-speakers where they would not have been acquainted with the '(wild) apple'. Many varieties of apple were known and, consonant with its dietary importance, the term may have been used generically for 'fruit'. The apple figures prominently in IE mythologies such as the "judgement of Paris" (who gave the "apple of discord" to Aphroditē, hence eventually precipitating the Trojan War). Those who regard the apple as a recent acquisition to IE speakers note the number of legends that depict the theft of apples by IE deities from non-IE pantheons, e.g., Hēraklēs' theft of the apples of the Hesperides.

See also TREES. [P.F.]

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ARM

***h$_a$érh$_x$mos** (Latin, Germanic, Slavic) or ***h$_a$r̥h$_x$mós** (Baltic, Indo-Iranian) 'arm, forequarter'. [*IEW* 58 (*arə-mo-); Wat 3 (*arə-mo-); GI 687 (*arH-mo-); Buck 4.31]. Lat *armus* 'forequarter, shoulder (of an animal)', ON *armr* 'arm', OE *earm* 'arm; foreleg' (> NE *arm*), OHG *arm* 'arm', Goth *arms* 'arm', OPrus *irmo* 'arm', Lith *ìrm-ėdė* 'gout', OCS *ramo* 'shoulder', Av *arəma-* 'arm, forearm', OInd *īrmá-* 'arm'. Probably from *h$_a$er(h$_x$)- 'fit, attach'. A strong candidate for PIE status. Arm *armukn* 'elbow' has also been placed here; however, it is probably an independent creation.

***bhāĝhus** (or ***bheh$_a$ĝhus**?) '(fore)arm, foreleg'. [*IEW* 108 (*bhāghú-s); Wat 5 (*bhāghu-*); GI 687 (*$b^h a\hat{g}^h u$-); Buck 4.31]. ON *bōgr* 'arm, shoulder', OE *bōg* 'shoulder, arm; bough' (> NE *bough*), OHG *buog* 'shoulder', Grk *πῆχυς* 'elbow, forearm', Av *bāzu-* 'arm; foreleg', OInd *bāhú-* 'forearm, arm, forefoot of an animal', TochA *poke* 'arm', TochB *pokai-* 'arm; limb'. Unanalyzable root with good distribution and a very strong candidate for PIE status.

***dóus-** '(upper) arm, shoulder'. [*IEW* 226 (*dous-); Buck 4.31]. OIr *doë* (*DIL doē*) 'arm', Latv *pa-duse* 'armpit' (< *'[part] under the arm'), Slov *pâz-duha* 'armpit', Av *daoš-* 'upper arm, shoulder', OInd *dóṣ-* 'forearm, arm'. Another unanalyzable root and very strong candidate for PIE status.

See also ANATOMY. [D.Q.A.]

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ARMENIAN LANGUAGE

Armenian is a single Indo-European language group, centered throughout its history in northeastern Asia Minor, in contemporary terms northeastern Turkey and the Armenian Republic. The Armenian people enter history on their Christianization in the first years of the fourth century AD, converted by missionaries from Cappadocia and Mesopo-

tamia. At first the written languages of the Armenian Church were Greek and Syriac but in the early fourth century one Mesrop Maštoc', a learned cleric (and later bishop), devised a special alphabet for Armenian and translated the Bible from Greek into Armenian. Thus inaugurated, the fifth century became the "golden century" of Armenian literature with numerous translations, besides that of the Bible, and original compositions. It is the language of that period which is Classical Armenian (in Armenian itself this kind of Armenian is called *Grabar*) and it remained the written norm of Armenian writers until the emergence of the modern literary language in the nineteenth century. The modern literary language comes in two variants, an eastern one based on the variety of Armenian spoken around Yerevan in the Armenian Republic, and a western one based on the variety of Armenian spoken in Istanbul.

It has been calculated that no more than 450, certainly no more than 500, Armenian words are directly inherited from Proto-Indo-European. The rest are from the unknown or very imperfectly known languages that were in northeastern Asia Minor when the ancestors of the Armenians arrived there, from Iranian, from Greek, from Syriac, etc. From the seventh century BC Armenia would seem to have been in the political and cultural "orbit" of the Iranian world, particularly from the time of the Parthian ascendancy in northwestern Iran. As a result the lexical influence of various Iranian languages, but especially Parthian, has been enormous. The Iranian lexical influx has been compared to the penetration of (Norman) French words into Middle English. However, the Iranian influence on Armenian lasted much longer than the Norman French influence on English and is consequently even more massive than the French influence on English. So great were the number of Iranian borrowings, including everyday words of all descriptions (e.g., *anapat* 'desert', *paštem* 'I worship', *ma(r)h* 'death'), that Armenian was long thought to be just another Iranian language. It was not until the 1870s that Armenian was generally recognized as an independent IE language, albeit one heavily disguised.

The early non-Iranian words, though much smaller in number, are not without their interest as well. The language that preceded Armenian in northeastern Asia Minor was Urartian, itself a close relative of the better-known Hurrian. Armenian words with Urartian or Hurrian antecedents include *xnjor* 'apple-tree' (cf. Hurrian *hinzuri*), *maxr* 'fir-tree' (cf. Hurrian *māhri* (a kind of tree), *ułt* 'camel' (cf. Hurrian *ultu*), *cov* 'sea' (Urartian *suə*). The close agreement in shape of these Classical Armenian words and their presumed sources is remarkable, especially as the actual borrowing is likely to have taken place a millennium or millennium and a half before Armenian is first attested. The phonological shape of Armenian must have been substantially established before these borrowings occurred, though there may be evidence in these borrowings that original final syllables were lost only after this period of borrowing was complete (e.g., Hurrian *māhri* borrowed > pre-Armenian **maxri* > Arm *maxr*).

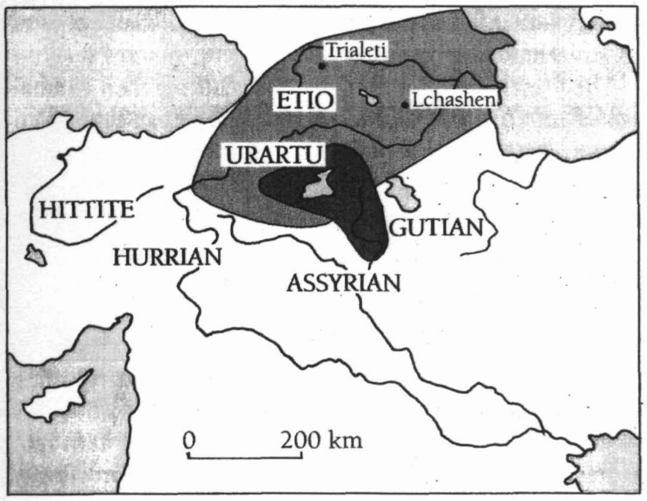
Classical Armenian shows no traces of dialectal divergence. All writers of Classical Armenian, no matter where they came from, wrote in essentially the same way. The testimony of the modern varieties of Armenian also suggests that Classical Armenian did not have dialect divergences since all modern varieties can be derived from Classical Armenian with little residue. However, there are certain discrepancies within the inherited word-stock of Classical Armenian. Thus some Armenian words descending from PIE forebears with initial **p-* have an initial *h-* and some have nothing (e.g., *hun* 'ford, channel' from **pontha-* 'way' or *het* 'footstep' from **pédom* but *otn* 'foot' from **pod-* 'foot') and others have *p'* (e.g., *p'etur* 'feather' from **pétetro-*); PIE **-rs-* sometimes appears as Armenian *-ṙ-* and sometimes as *-rš-* (e.g., *t'aṙamim* 'I wither' and *t'aršamim* 'I wither'): There are several other unexplained divergences such as these. These discrepancies suggest to some that Classical Armenian may originally have been a *koiné*, the amalgamation of more than one dialect, which eventually replaced all other dialects (much as the Hellenistic Greek *koiné* replaced [most of] the Greek dialects known in antiquity).

Description

The criterion that most clearly characterizes Armenian among the IE languages is phonological rather than morphological. The three series of stops that we can reconstruct for PIE, here represented by **t*, **d*, **dh*, underwent a shift, much like we see in Germanic (there called "Grimm's Law") and appear in Classical Armenian as *t'* (voiceless and aspirated), *t*, and *d*. Evidence from contemporary Armenian dialects suggests that voiced series *d*, etc., may have been voiced aspirates in actuality and thus not very different, if at all, from the phonetic pattern classically reconstructed for this series in PIE. Recent suggestions concerning PIE stops would make Armenian even more archaic on this particular point than has usually been thought (cf. Gamkrelidze and Ivanov's reconstruction of $*t^h$, **d'*, and $*d^h$ which look much more like Armenian *t'*, *t*, and *d* [especially if the latter is aspirated] than do the traditional **t*, **d*, and **dh*). Whether the phonetics of the Armenian stop system is archaic or innovative, it clearly sets it apart from other IE groups. Armenian is a satəm language, meaning that the dorso-palatals of PIE (e.g., **ḱ*) appear as affricates and sibilants (Armenian *s*) while the labio-velars (e.g., $*k^w$) have lost all trace of labialization (Armenian *k'*) and thus have fallen together with the non-labialized dorso-velars. Like Greek, Armenian preserves the distinction among PIE **e*, **a*, and **o* (though Armenian shows a number of instances of *a* where we might expect to find either *e* or *o*). Like Anatolian, with which Armenian does not seem to share any significant innovations, Armenian preserves word-initial $*h_2$- (at least sometimes) and perhaps also $*h_3$- as well. One of the more unusual phonological changes to be found in Armenian is known as Meillet's Law and refers to the shift from **du̯-* to Arm *erk-*, e.g., **du̯ō* > Arm *erku* 'two', **du̯ā-ró-* > Arm *erkar* 'long' (cf. Grk *δηρόν*).

Proto-Indo-European and Armenian Phonological Correspondences

PIE		Arm	PIE	Arm
*p	>	h ~ ø ~ p' ~ y ~ w	**ponth$_a$-* 'way'	*hun* 'ford, channel'
			**pod-* 'foot'	*otn* 'foot'
			**pétetro-* 'feather'	*p'etur* 'feather'
			**pḫ$_a$tr-ou-* 'stepfather'	*yawray* 'stepfather'
			**h$_1$epi* 'upon, also'	*ev* 'and, also'
*b	>	p	**stéibe/o-* 'stamp, shove'	*stipem* 'I urge, compel'
*bh	>	b	**bhére/o-* 'bring'	*berem* 'I bring'
*t	>	t' ~ d ~ y	**torsos* 'drying place'	*t'aṙ* 'stake for drying fruit'
			**mr̥tós* 'mortal'	*mard* 'man'
			**pḫ$_a$tér-* 'father'	*hayr* 'father'
*d	>	t	**dóh$_3$rom* 'gift'	*tur* 'gift'
*dh	>	d	**dhur-* 'door, gate'	*durk'* 'gate'
*ḱ	>	s	**déḱm̥* 'ten'	*tasn* 'ten'
*ĝ	>	c ~ t	**ĝónu* 'knee'	*cunr* 'knee'
			**ĝl̥h$_1$-* 'husband's sister'	*tal* 'husband's sister'
*ĝh	>	j	**ĝhesr-* 'hand'	*jeṙn* 'hand'
*k	.	k' ~ g	**h$_2$erk-* 'contain'	*argel* 'obstacle, prison'
*g	>	k	**ger-* 'crane'	*kṙunk* 'crane'
*kʷ	>	k' ~ h ~ g	**leikʷ-* 'leave'	*lk'anem* 'I leave'
			**kʷi-* (interrogative pronoun)	*him* 'why'
			**pénkʷe* 'five'	*hing* 'five'
*gʷ	>	k	**gʷéneh$_a$-* 'woman'	*kin* 'woman, wife'
*gʷh	>	g ~ ǰ	**gʷhermos* 'warm, hot'	*ǰerm* 'warm, hot'
*s	>	h ~ ø	**sénos* 'old'	*hin* 'old'
			**sal-* 'salt'	*aɫ* 'salt'
*i̯	>	z ~ ø	**stéri̯os* 'sterile'	*sterǰ* 'sterile'
			**tréi̯es* 'three'	*erek'* 'three'
*u̯	>	g	**u̯ailos* 'wolf'	*gayl* 'wolf'
*m	>	m	**médhi̯os* 'middle'	*meǰ* 'middle'
*n	>	n	**snusós* 'daughter-in-law'	*nu* 'daughter-in-law'
*l	>	l	**leikʷ-* 'leave'	*lk'anem* 'I leave'
*r	>	r	**tréi̯es* 'three'	*erek'* 'three'
*m̥	>	am	**u̯i(d)ḱm̥t* 'twenty'	*k'san* 'twenty'
*l̥	>	al	**ĝl̥h$_1$-* 'husband's sister'	*tal* 'husband's sister'
*r̥	>	ar	**mr̥tós* 'mortal'	*mard* 'man'
*i	>	i	**bhidrós* 'biting'	*birt* 'rigid, rude'
*ī	>	i	**ki̯ōn* 'column'	*siwn* 'column'
*e	>	e ~ i (~ a)	**médhi̯os* 'middle'	*meǰ* 'middle'
			**sénos* 'old'	*hin* 'old'
			**déḱm̥* 'ten'	*tasn* 'ten'
*ē	>	i	**ḱērd* 'heart'	*sirt* 'heart'
*a	>	a	**sal-* 'salt'	*aɫ* 'salt'
*ā	>	a	**néh$_a$us* 'boat'	*naw* 'boat'
*o	>	o ~ u (~ a)	**h$_3$orbhos* 'heir, orphan'	*orb* 'orphan'
			**ponth$_a$-* 'way'	*hun* 'ford, channel'
			**h$_3$ókʷ* 'eye'	*akn* 'eye'
*ō	>	u	**h$_3$onōri̯o-* 'dream'	*anurǰ* 'dream'
*u	>	u	**srutis* 'flowing'	*aṙu* 'brook'
*ū	>	u	**mū́s* 'mouse'	*mukn* 'mouse'
*h$_1$	>	ø	**h$_1$ésmi* 'I am'	*em* 'I am'
*h$_2$	>	ø ~ h	**h$_2$ŕ̥tḱos* 'bear'	*arǰ* 'bear'
			**h$_2$euh$_2$os* 'grandfather'	*haw* 'grandfather'
*h$_3$	>	ø ~ h	**h$_3$or-* 'bird'	*oror* 'gull'
			**h$_3$od-* 'smell'	*hot* 'odor'
*h$_4$	>	ø	**h$_4$órĝhis* 'testicle'	*orjik'* 'scrotum'



Armenian The territory of the Armenian language appears to have been roughly coincidental with that of the earlier non-IE Hurrian and closely related Urartian (with dark shading). The poorly known and presumably related non-IE Etio language was to its north. Many of these languages occupied partially or wholly the earlier territory of the Kuro-Araxes culture (light shading). The nearest IE neighbors of the Armenians were the Hittites (and related Luvians and Palaic-speaking populations) who were not closely related to Armenian. Assyrian and Gutian are non IE languages. Burials with wheeled vehicles have been uncovered at Trialeti and Lchashen.

Though historically attested Armenian has changed rather slowly (though the modern verbal system shows a radical restructuring of the classical system), prehistoric Armenian underwent a good deal of change and thus Classical Armenian already presents a rather "modern" appearance when compared to its contemporary cousins. In nouns gender and the dual are lost, though there is still a maximum of five different case shapes. Though there are some conservative features of the Armenian verb, for instance the retention of the "augment" (a prefix denoting past time) in monosyllabic verbs (*e-ber* 'he brought', *e-git* 'he found'), in general it would seem that the verb has been very thoroughly rebuilt in the interim between PIE and the emergence of Classical Armenian. The verb is inflected for both person and number (singular and plural) but of the several tenses and moods that the Armenian verb indicates only present and aorist (itself a combination of the PIE imperfect and aorist) among the tenses and the imperative among the non-indicative moods can be traced back directly to PIE antecedents.

Herodotus (7.73) reported that the Armenians were in origin Phrygian emigrants or colonists. Thus, there has been a continuing assumption that Armenian is linguistically closely related to Phrygian. From the point of view of geographical propinquity as well as the tradition recorded by Herodotus such an assumption makes sense. However, the linguistic remains of Phrygian are so scant that they afford no confirmation (or disconfirmation). What does seem to be certain is that Armenian is a member of a "southeast" group of IE languages that includes Greek and Indo-Iranian as well. For instance, only Armenian, Greek, and Indo-Iranian show clear traces of the reconstructed PIE imperfect tense. Likewise they, and Phrygian, are the only IE languages to show the "augment" in past tense formations. Within this smaller group Armenian appears to be most closely allied with Greek showing a number of shared lexical items with it (e.g., Arm *awelum* 'I increase' and Grk *ὀφέλλω* 'I increase' from **h̥₃bhel-*, or Arm *siwn* 'column' and Grk *κῖων* 'column' from something like **k̂īi̯ōn*).

Armenian Origins

The starting point for any discussion of Armenian origins must emphasize that the territory in which the Armenian language has been historically attested, the contemporary Republic of Armenia and eastern Turkey, was occupied during the Bronze Age by speakers of Hurrian and the closely related Urartian. The earliest Hurrian inscriptions are dated to the mid third millennium BC and these run into the second millennium BC. The southern border of the Hurrians extended to Syria and southeast into the area inhabited in modern times by Kurds along the Iran/Iraq frontier. To the south of the Hurrians, even overlapping with them, were the lands of Semitic-speaking peoples. It has been suggested that the Hurrian language is related to the modern Northeastern Caucasian language group (Nakh-Daghestani). By the first millennium BC the Hurrians had disappeared. They were replaced in the southeastern portion of their former territory by the Urartians who spoke a language closely related to Hurrian. North of the Urartians, in the northern part of the formerly Hurrian area, were the Etio or Etiuni, who extended as far north as central Transcaucasia (i.e., the modern Republic of Armenia). Though the linguistic remains of the Etio are very meager, it is usually assumed that their language too was related to Hurrian. To the east of the Hurrian-Urartian-Etio complex were the Gutians (or Qutians), known only from personal and place-names that suggest a different and unrelated language grouping, who occupied the territory south of Lake Urmia in what is now Iran. To the west of the Hurrian-Urartian-Etio complex were various members of the (Indo-European) Anatolian group: Luvians in southern Anatolia and Hittites (who had replaced the non-IE Hatti and taken their name) and Palaic-speakers in central Anatolia. To the northwest were the non-IE Kaskians.

This linguistic picture really leaves no room for indigenous Armenians and forces one to conclude that they migrated to their historical seats from elsewhere. That they share a series of isoglosses, both morphological and lexical, with Greek has suggested that it is more likely that they originated to the west of their historical territory; to reverse the direction of movement and presume that it was the Greeks who moved off to the west raises serious chronological problems, e.g., the late attestation of Armenian in eastern Anatolia would suggest that the Greeks should not have arrived in their own

historical territory until long after we actually have evidence for the Greek language in the fourteenth century BC Linear B inscriptions.

In the period immediately prior to the emergence of the Hurrians, the northern area of their distribution was occupied by the Kuro-Araxes culture (*c* 3400–2500 BC). The distribution of Kuro-Araxes sites would encompass the territory of the Etio and Urartians as well as the northern part of the Hurrians. It is often presumed that the Kuro-Araxes culture is an archaeological reflection of the Hurrians. Its successors boast sites such as Lchashen and Trialeti with their abundant evidence for wheeled vehicles placed in tombs, a useful reminder that wheeled vehicles need not be a particular marker of IE cultural identity in western Eurasia (wheeled vehicles were also buried in the Sumerian tombs at Ur and in the royal burials of the Shang dynasty in China).

The emergence of the Armenians has proven, so far at least, invisible from an archaeological standpoint. Historical texts tell us of the Hurrians and their successors in the various Urartian states, detailing their incessant wars with their Hittite, Luvian and Assyrian neighbors and the later penetration of their territory by Kimmerians and Scythians (Iranian-speaking or at least Iranian-lead groups originally from north of the Black Sea). By the seventh century BC the Urartian state was collapsing, ultimately in the face of the (Semitic) Babylonians and the Medes (Iranians of what is now northwestern Iran). By *c* 590, the Urartian kingdom no longer existed. By this time we find the rise of the first Armenian kingdom and by the reign of Darius I (525–485 BC), the Persians, who were the heirs of the Medes, had organized two satrapies in Armenia (or, in Persian, Armina).

Armenian presence in their historical seats should then be sought at some time before *c* 600 BC; how much earlier it is very difficult to imagine and the historical evidence for the Armenian highlands does not provide any reliable candidates although Igor Diakonoff has made an extensive case for seeking Armenian origins among a people known to the ancient world as the Muški. The Muški were first recorded about 1165 BC when they crossed the upper Euphrates from the west and by 1115 some 20,000 of them under their five chieftains are recorded as advancing on the upper Tigris. Diakonoff has suggested that the Muški entered Anatolia from the Balkans about the twelfth century and represented one of the peoples who contributed to the collapse of the Hittite empire and who are repeatedly mentioned in early texts. The term was certainly applied to the Phrygians who occupied central Anatolia and Diakonoff, accepting some form of relationship between Phrygian and Armenian, identifies the eastern Muški as Proto-Armenians. Hence as we find Muški in the historical seats of the Armenians by about the twelfth century and we know the same name was applied to IE Phrygians to their west, then at least a case can be made for presuming that the Muški reflected an intrusive IE-speaking population. Diakonoff suggests that the Armenian name for themselves, Ḥayk', derives from **Hāttiyos*, the name applied by the Urartians to all the peoples from west of the Euphrates, i.e., the Hittite (or better, Hattic) lands.

The Armenians, according to Diakonoff, are then an amalgam of the Hurrians (and Urartians), Luvians and the Proto-Armenian Muški who carried their IE language eastwards across Anatolia. After arriving in its historical territory, Proto-Armenian would appear to have undergone massive influence on the part of the languages it eventually replaced. Armenian phonology, for instance, appears to have been greatly affected by Urartian, which may suggest a long period of bilingualism. Loanwords from Luvian can be identified (and perhaps from Hittite also) as can loanwords from Aramaic, though these strata are dwarfed by the massive influx of Iranian words, mainly from the neighboring Parthian in northwestern Iran. In this process not only was the Armenian lexicon affected but also the grammar.

See also **Indo-European Languages**. [D.Q.A., J.P.M.]

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ARMY

koros**'army, war-band, unit of warriors'. [*IEW* 615–616 (**koro-s*); Wat 32 (**koro-*); cf. GI 644; Buck 20.15]. MIr *cuire* 'troop, host', Gaul *Tri-corii* (tribal name: '[consisting of] three tribes'), ON *herr* 'army', OE *here* 'army', OHG *heri* 'army', Goth *harjis* 'army', OPrus *kargis* 'army', Lith *kãrias* 'army', *kāras* 'war', Latv *kaŗš* 'army', Grk **κοίρανος** 'army leader', ***Κοιρό- in personal names (cf. the similar use of this element in early Germanic personal names, e.g., *Hario-*, *Chario-*, including that of Ōðinn, i.e., *Herian* (< **koryonos*).

Perhaps also OPers *kāra-* 'people, army'. Distribution suggests at least a word for 'army' from the west and center of the IE world.

leh₂u̯ós 'people (under arms)'. [Gl 644 (**laH(w)o-*)]. Myc *ra-wa-ke-ta* (= [Doric] *λᾱγέτᾱς*) 'leader of the people', *ra-wi-ja-ja* 'captives', Grk *λᾱ(ϝ)ός* 'people, (pl.) army', *λεία* (Ionic *ληίη*) 'booty', *ληΐζομαι* 'plunder', Phryg *lawagtaei* 'military leader'. Cf. Hit *lahha-* 'campaign'. The presence of Hit *lahha-* suggests PIE status for **leh₂-* '± military action'. The derivative **leh₂u̯ós* '± army' would appear to be regionally restricted to Greek and Phrygian.

i̯eudhmós 'fighter'. [*IEW* 511 (**i̯eu-dh-*); Wat 79 (**yeudh-*)]. OCS *o-jĭminŭ* 'warrior', OInd *yudhmá-* 'warrior'. A word of the southeast of the IE world. From **i̯eudh-* 'to fight'. Cf. OWels *Mor-iud* 'sea-fighter'.

War-bands

The word **kori̯os* has been examined in detail by Kim McCone and provides the basis for his reconstruction of PIE society. The emphasis found in the Germanic cognates suggests war-bands engaged in predatory behavior, cf. the related verbal forms in ON *herja* 'harry, despoil, waste', OHG *herian* 'to make a foray', etc., and the use of this word as an appelative of Ōðinn (*Herjann*) who leads a war-band of the dead. It may also underlie one of the tribes mentioned by Tacitus, the *Harii*, which may have designated a specific type of military unit (or warriors disguised as phantoms) rather than a tribe. According to McCone this military unit may broadly be described as a *Männerbund*, an organization of young unmarried men. The size of the unit may range from a minimum of two but usually more, and frequently about twelve. They lived off the country by hunting and raiding and engaged in berserkr-like behavior. The frenzied behavior is very often likened to that of wolves, and such social groups were frequently termed wolves (or dogs) and adopted the headdress, apparel and iconography of the wolf. It is from such groups that one may also derive the frequent application of personal names containing the element wolf, e.g., ON *Herjōlfr*, OE *Herewulf* 'Wolf of the war-band'.

The Irish cognate *cuire* 'troop' is archaic and cognate with a series of names of Gaulish tribal confederacies, e.g., *Vo-corii*, *Tricorii*, *Petru-cori*, which indicate units of two, three and four 'troops' respectively. The early Irish exhibited an institution very similar to that of the Germanic war-band, the *diberga* or *fēindidi*, which consisted of young unmarried men who lived off the country (hunting and raiding). Their bands consisted usually of groups of three, five, nine or twelve (with nine the most frequent) and their behavior was also explicitly that of a wolf or dog. Irish also produces a series of personal names where 'wolf' and 'dog' is a major element, e.g., *Cenn Faelad* 'Wolf-head', *Coin-chenn* 'Dog-head'.

On the basis of Celtic-Germanic comparisons, one can posit the specific institution of the war-band in at least the western periphery of the Indo-European world. To what extent it may be ascribed to a broader region or an earlier antiquity in IE depends on what further evidence can be adduced. The existence of cognate terms in Baltic, Greek and Iranian would at least indicate that the **kori̯os* itself is of PIE antiquity. Other possible cognates may be found in Italic, e.g., the personal name of *Coriolānus* and the town of *Corioli*.

The derivative of this word in Greece (Grk *κοίρανος* 'army leader') is taken by Benveniste to indicate a military commander who may control his troops but does not lead them in battle but McCone has shown that the term was still regularly applied to active warriors in the field. Ancient Greece also employed war-bands very similar to those of the Celts and Germans. The Ephebes, for example, reflected an age set of young unmarried males, between 16 and 25, who lived like wolves in the wild; warriors in Arcadia bore wolf and bear hides instead of shields (the Trojan Dolōn wears a wolfskin in the *Iliad*) and another parallel would be the Spartan Krypteia. 'Wolf' is a frequent enough element in early Greek names, e.g., *Λυκόοργος*, *Λυκοφόντης*, and the frenzied behavior of Greeks in battle is described with the word *λύσσα* (< **lukʷih₂-*) 'wolfish rage'. Although there is no certain lexical associations between *κοίρανος* and these war-bands, the structural similarities do exist.

The Old Persian form *kāra* is isolated (there is no cognate in Indo-Aryan) and where it does occur, it implies the concept of a people under arms rather than a specialized military unit. Yet both ancient Iran and, especially, early India, yield evidence of the classic *Männerbund*. The OInd *márya-* 'young man' (cf. Av *mairyō* 'villain, scoundrel') is employed to describe the wildly aggressive war-band assembled around the leadership of Indra or Rudra in the Vedas. Although the Indo-Iranian form is usually derived from an *e*-grade **meri̯o-* with cognates in other IE stocks, McCone suggests that the underlying form may well be an *o*-grade (**mori̯os*) with a precise cognate in OIr *muire* 'leader, chief'.

McCone suggests that there is sufficient lexical and certainly structural correspondences to reconstruct a PIE 'war-band' comprising an age set of young unmarried and landless (but free) men who lived off the land, engaged in predatory activities, had a particular association with wolves (less so, dogs or bears), were famous for their berserkr-like behavior in battle, and might form the "shock troops" in military engagements. This was a distinct age set which, when married and settled on their land, entered the **teuteh₂* the tribal organization of adults who were still liable to military service.

See also Age Set; Booty; Captive; Companion; Conquer; Fight; Leader; People; Social Organization; Warfare; War God; Warriors; Wild (God); Young. [J.P.M., E.C.P.]

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AROUND

h₂ent-bh-i 'around, on both sides'. [*IEW* 34 (**ambhi*); Wat 2 (**ambhi*); GI 59; BK 414 (**ħaŋ-t[ʰ]-/*ħəŋ-t[ʰ]-*)]. OIr *imm-* ~ *imb-* 'about, mutually', Wels *am-* 'about', Lat *ambi-* 'on each side of, around, about', ON *umb* 'about', OE *ymb(e)* 'about', OHG *umbi* 'about', Goth *bi* 'near', Alb *mbi* 'over', Grk *ἀμφί* 'about, near', Arm *amb-olǰ* 'complete', Av *aiwitō* 'on both sides', OInd *abhí-ta-* 'on both sides'. Cf. **h₂ent-bh-ō* 'both'. A derivative of **h₂ent-* 'face'. Old in IE.

See also ADPREPS. [D.Q.A.]

ARROW *see* BOW AND ARROW

ARYAN *see* FREEMAN

ASH[1]

h₃es(k)- (***h₂os(k)-?**) 'ash (*Fraxinus excelsior*, perhaps *F. ornus, F. oxycarpa, F. pallisiae, Sorvus aucuparia*)'. [*IEW* 782 (**ōs*); Wat 46 (**os-*); GI 537–538 (**Hos-*); Buck 8.62; Fried 92–98; Camp 166–168; BK 415 (**ħasʸ-/*ħəsʸ-*)]. OIr *uinnius* 'ash', Wels *onn(en)* 'ash' (< Celt **osna-*), Lat *ornus* 'mountain ash; spear', ON *askr* 'ash; spear', OE *æsc* 'ash; spear' (> NE *ash*), OHG *asc* 'ash' (< Gmc **askiz*), OPrus *woasis* 'ash', Lith *úosis* 'ash', Latv *uôsis* 'ash' (< Baltic **ōsis*), Rus *jásenĭ* 'ash' (< Slavic **ōs-en-*), Alb *ah* 'beech', Grk *ὀξύη* 'beech; spear-shaft', Arm *hac'i* 'ash'. Perhaps also Hit *hassikk-* ~ *hassikka-* some form of tree with edible fruit (perhaps the olive which botanically belongs with the ashes as *Oleaceae*). It may be noted that the Celtic, Italic, Baltic and Slavic forms all derive from an underlying **h₃es-* while Germanic, Greek, Albanian, Armenian (and Hittite if accepted) all come from **h₃esk-*.

Several species of ash and possibly the 'mountain ash' were perhaps distinguished by modifiers of PIE **os-* (with considerable consonantal extensions). A strong association of the tree name with the spear or other pointed weapons is indicated by texts in several stocks. The lexical associations in Germanic are obvious where both ON *askr* and OE *æsc* meant 'ash' and 'spear' and similarly in Latin where *ornus* indicated both the 'mountain ash' and 'spear'. Even where we find the PIE 'birch'-word semantically shifted, i.e., Lat *fraxinus* 'ash' it is employed metonymically for javelin (*Nam Clytii per utrumque grauui librata lacerto fraxinus acta femur* 'For through both thighs of Clytius went the ashen spear, hurled by his mighty arm', Ovid's *Metamorphoses* 5.143). In Greek too the root *ὄξυ-* appears variously in forms for 'ash', 'spear' and as an epithet for 'sharp, pointed'. In the Old Irish tree-list, the *uinnius* 'ash' is singled out as a "noble" wood because of its use in the manufacture of weapons and *uinnius* can also be used for 'spear-shaft'. The lexical associations are borne out by the numerous archaeological contexts for prehistoric ash. While it was employed in construction, it was probably most utilized as a medium for hafting; implements discovered in Europe of stone, copper or bronze with their handles intact are almost predictably of ash, e.g., the hafts to both the ax and dagger of Ötzi, the "ice-man" found in the Tyrolian Alps.

Another semantic association of the ash term was with the mountain ash or rowan tree in Italic, and with the beech in Greek and Albanian (where shifts of the ash term to 'beech' seem to have been co-ordinate with shifts of the corresponding 'beech' words [from PIE **bhehₐĝós*] to 'oak').

Some forms in Finno-Ugric such as Mari *oško* 'ash' may have come from early IE; excepting the problematic Armenian reflex, **os-* is a northern dialectal form. While its absence from Tocharian occasions no surprise given the semantic content of the texts of this stock, its absence from Indo-Iranian does occasion problems in assigning it to PIE with certainty although the existence of a potential Hittite cognate does help secure PIE antiquity. Moreover, given the wide distribution of the ash and its critical technological value, it may be argued that the ash (probably the common ash, but possibly involving some combination of the common, flowering, mountain and oxycarpal varieties) was integral to PIE speakers and perhaps even the pre-PIE vocabulary.

Botanically, the pollen evidence for the common ash (*Fraxinus excelsior*) *c* 6000–3000 BC finds it widely distributed across Europe with few exceptions, e.g., Iberia (where *Fraxinus angustifolia* can be found) and Scandinavia. It is, however, confined to northern Italy throughout most of the Holocene except the Bronze Age where it is found to extend as far south as the Tiber. *Fraxinus ornus* 'Manna ash' is limited almost entirely to southern Italy, Greece and south-east Europe during the period *c* 3000 BC and, although it is present in lake cores from southwestern Anatolia, the evidence suggests that it appears relatively late in the Neolithic or Bronze Age. The ash is far too ubiquitous to count for much—taken by itself—as diacritic for locating the Indo-European homeland.

See also SPEAR; TREES. [P.F.]

Further Reading

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ASH[2]

h₂éhₓōs 'ash' (< '± burnings'). Hit *hās* (acc. *hāssan*) 'soda ash, potash; soap; (pl.) ashes', Ormuri *yānak* (< **ās-naka-*), OInd *ā́sa-* 'ash, dust'. From the derivative **h₂h̥ₓs-ko-* we have ON *aska* 'ash', OE *asce* 'ash' (> NE *ash*), OHG *asca* 'ash'; from **h₂h̥ₓs-g(h)-* we have Goth *azgō* 'ash', ? Arm *aciwn* 'ash'. From **h₂ehₓ-* 'burn'.

?*kenhₓis- 'ash'. [*IEW* 559–560 (**kenis*); Wat 29 (**keni-*); Buck 1.213, 1.84]. Lat *cinis* (masc.) 'ash', Grk *κόνις* (fem.) 'dust, ash', TochB *eñcuwaññe kentse* (< **konis-o-*) 'rust' (lit. 'iron ash/dust'). The Latin and Greek forms have been much debated. The Latin form is an *s*-stem while there are also indications that the Greek form derives from an earlier *s*-stem. Lat *cinis* may derive from **kenis-* but need not; this again might derive from **kn̥hₓ-is-*. The different ablaut grades (Lat *e*-grade, Grk *o*-grade) may point to a static inflexion. The difference in gender between Latin and Greek may reflect an underlying PIE neuter (the Tocharian word may be either

masculine or neuter, we do not know). No verbal root from which this noun might be derived is known. The Greek word means 'dust' and only in a few cases 'ash' so this may be a secondary meaning. Quite uncertain is the entire PIE status of the root.

See also BURN; DRY; FIRE. [D.Q.A.]

ASK

***perk̂-** 'ask, ask for (in marriage)' (pres. ***pr̥k̂sk̂e/o-** ~ ***prok̂eh$_a$-**). [*IEW* 821–822 (**perk̂-*); Wat 53 (**prek-*); GI 93 (**p^{h}r̥-sk̂^{h}-*); Buck 18.35; BK 67 (**p[^{h}]ir-/*p[^{h}]er-*)]. OIr *arcu* 'ask', Wels *archaf* 'ask', Lat *poscō* 'ask', *precor* 'ask for', *prex* 'request', *procus* 'wooer', OHG *forscōn* 'ask, examine', *frāgēn* ~ *frāhēn* 'ask', *fergōn* 'demand', Goth *fraíhnan* 'ask', *fragan* 'test', Lith *peršù* 'propose in marriage', *prašaũ* 'request', OCS *prositi* 'ask', Arm *harc'anem* 'ask', *e-harc'* 'has asked', *harsn* 'bride', Av *pərəsaiti* 'asks', OInd *pr̥ccháti* 'asks', TochAB *pärk-* 'ask'. Widespread and old in IE.

?*i̯eh$_a$- 'ask for, beg'. [*IEW* 503 (**i̯ā- ~ *i̯ō-*)]. Av *yās-* 'beg, entreat', OInd *yā-* 'beg, entreat', TochB *yāsk-* 'beg', *yāṣṣu* 'alms'. A word limited to the most easterly stocks of IE.

See also MARRIAGE; PRAY; SPEAK. [D.Q.A.]

ASPEN, POPLAR

***h$_{2/3}$osp-** 'aspen, poplar (*Populus* spp.)'. [*IEW* 55 (**apsā*); Wat 3 (**apsā*); GI 538–539 (**(H)osp^h-*); Fried 49–53; Camp 157–159]. ON *ǫsp* 'aspen', OE *æspe* 'aspen', OHG *aspa* 'aspen', OPrus *abse* 'aspen', Lith *apušē* 'aspen', Latv *apse* 'aspen', Rus *osína* 'aspen', Arm *op'i* (< **h$_{2/3}$opsii̯o/eh$_a$-*) 'poplar'; possible cognates in Indo-Iranian include NPers *fih* 'oar', Wakhi *pēi* 'shoulder blade', OInd *sphyá-* (< **sph$_2$-i̯ó-* with metathesis from **h$_2$sp-i̯ó-?*) 'oar; pole; shovel'.

A northern IE **h$_{2/3}$osp-* is attested in three stocks, Germanic, Baltic and Slavic, and consonant with its north-eastern distribution, we find similar forms in at least six Turkic languages of Siberia (*apsak* in three of them), several Finno-Ugric forms such as Finnish *haapa* 'aspen, poplar', and another dozen Finno-Ugric forms to the east (*pi* in six Samoedic languages). All of this argues for an areal term in a "language group" of northeast Europe and southern Siberia during the second millennium BC. Most scholars agree that the Germanic, Baltic and the Slavic forms are cognate even though the different orderings of *s* and *p* have never been explained satisfactorily. This northern **h$_{2/3}$osp-* is probably cognate with both Arm *op'i* and OInd *sphyá-* and related Indo-Iranian languages. These Indo-Iranian forms mean things like 'front oar, punting pole, shovel, sacrificial instrument' for all of which poplar wood may be, although it is not necessarily, used. The last of these meanings is reinforced by the use of poplar wood instruments and tools in early IE and Finno-Ugric religious ritual. If the cognates in Armenian and Old Indic are accepted, then this word is of PIE status.

The main species of *Populus* tend to thrive in moist grounds and are particularly prominent in the flood plains of the major European rivers. Only the aspen (*Populus tremula*) tolerates relatively dry ground and is by far the most widespread species, found almost everywhere in Europe except for southern Iberia and the Mediterranean basin. It is specifically the quaking aspen that constitutes large forests of eastern Europe and much of south Siberia, where the seeds, buds, twigs, and shoots provide food—particularly in the winter—for many wild animals such as deer, rabbit and bear. The prehistoric distribution of the poplars and aspens is difficult to determine as the pollen for these species are not easily recognizable. Preliminary pollen maps for the period *c* 6000–3000 BC would find the *Populus* primarily confined to northern Europe with a marked presence also in the Alps. While such maps may indicate the presence of *Populus*, they cannot be reliably utilized to reveal where it was absent. Similarly, while **h$_{2/3}$osp-* may be assigned some degree of antiquity in IE, it is not clear whether it can be assigned a PIE date which would make its botanical distribution—as either 'aspen' or 'poplar'—relevant to locating the earlier distribution of the IE languages although the evidence for contacts between those northern stocks possessing the term and members of the Uralic family are clear enough.

See also TREES. [P.F.]

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Normier, R. (1981) Zu Esche und Espe. *Die Sprache* 27, 22–29.

ASS

?*gordebhós 'wild ass (*Equus hydruntinus*)' or 'onager/kulan (*Equus hemionus*)' or 'domestic ass/donkey (*Equus asinus*)'. [VW 214–215; Buck 3.46]. OInd *gardabhá-* 'ass', *gardabhí-* 'she-ass, jenny', TochB *kercapo* 'ass'. This word is typically taken to reflect a borrowing on the part of Tocharian from some form of pre-Indic or the borrowing on the part of both pre-Tocharian and pre-Indic from some third source. Logically also possible is that pre-Indic borrowed the word from pre-Tocharian. Any of these theories presupposes a very early borrowing, before the falling together of **-o-*, **-a-*, and the **-e-* in Indic and before palatalization in Tocharian. Both these processes are very ancient in these stocks. Since the putative ancestor of the Tocharian and Indic words, **gordebhós* has the look of a PIE word, including the suffix **-bho-*, which is often found with animal names, it is perhaps the case that **gordebhós* is a late PIE word found in the east of the IE world. But if that is the case, another problem emerges (as it does in the case of the early borrowing scenario) and that is that it is unlikely that the pre-Tocharians and pre-Indics, located somewhere in central Asia (Kazakhstan, southern Siberia, Xinjiang), lived in an area where there were any wild asses. However, they would have been in an area where there were onagers or kulans. Perhaps **gordebhós* was a dialect word for 'onager' that was transferred, probably independently, by speakers of (pre-)Tocharian and (pre-)Indic to the economically more important, and perceptually similar, ass. Alternatively, the underlying form referred to the 'domestic ass' which may have appeared in areas ancestral to later Indo-

Iranian and Tocharian movements by *c* 2000 BC if not somewhat earlier.

?*mú(k)skos* ~ **mukslós 'ass/donkey (*Equus hydruntinus*)' or 'onager/kulan (*Equus hemionus*)'? Lat *mūlus* (< **mukslo-*) 'mule', Late Lat *muscellus* 'young he-mule', *muscella* 'young she-mule' (< **mukslolo/eh$_a$-*), ORus *mŭskŭ* 'mule', Alb *mushk* 'mule' (very likely a borrowing from Slavic), Grk *μυχλός* (< **mukslo-*) 'he-ass'. In this case, if as seems likely, we have the remnant of a PIE word here (rather than, as is often supposed, a borrowing from some "Asianic" source), we have a shift from 'ass' or 'onager' in Latin and Slavic to the hybrid offspring of an ass or an onager and a horse. Since the languages reflecting this word are all from the west and center of the IE world there is a reasonable chance that the original meaning, preserved in Greek, was that of 'ass' rather than 'onager'.

??*os(o)nos 'ass'. [Wat 4 (**asinus*); GI 480; Blažek 108–109]. Lat *asinus* 'ass', Myc *o-no* 'donkeys', Grk *ὄνος* 'ass', HierLuv *tarkasna-* 'ass' (< **tark-asna-* 'draught-ass'). Even if the Luvian word is to be divided this way and even if the Latin and Luvian words are thus related, there is no reason to suppose that the relationship is one of inheritance rather than borrowing (compare Sumerian *anšu* 'ass', Hebrew *athon* 'ass'). The lack of any trace of the reconstructed PIE **-s-* in the putative Greek cognates makes this inclusion difficult for either a hypothesis of inheritance or borrowing. Most dubious for PIE.

Archaeological Evidence

Wild asses seem to have been widespread during the Pleistocene (they are depicted in Palaeolithic cave paintings) and were found in southern Europe to northern Africa, including Anatolia. The European variant (*Equus hydruntinus*), however, appears to have become quite restricted by the end of the Ice Age and in Neolithic contexts is limited to the territory of southern Europe from Iberia across eastern central Europe (Moravia, Hungary) to the steppe regions of the Ukraine-south Russia. Even in territories where it was likely to have been numerous, it is only marginally attested on archaeological sites and seems to have become extinct in the Carpathian basin by the middle Neolithic. The most recent finds are from Iberia at *c* 3000 BC and at a similar date from Romania. From a linguistic standpoint, the PIE community may have known the wild ass but whatever word they may have had for it should either have died out with the animal itself or been transferred to another animal.

The domestic ass or donkey (*Equus asinus*) evolved in north Africa *c* 4000 BC and was very well known in ancient Egypt. The domestic ass began appearing in southwest Asia by the late fourth millennium BC and asses were employed as pack animals by the Assyrian merchants who dealt with the Hittites in the second millennium BC. The earliest evidence for the domesticated ass in northwest India is *c* 2000 BC (although there is some evidence for wild asses in the Palaeolithic) and it is presumed that it was acquired in the exchange relationships between the Indus Valley civilization (Harappan culture) and Mesopotamia. The domestic ass was apparently introduced into Europe via Turkey (the Hittites) and the Black Sea and it begins to appear on archaeological sites of the Balkans, Ukraine and south Russia by at least the first millennium BC. The spread of the domestic ass to Greece was followed almost as fast by its spread to Rome whence it was introduced to the rest of the empire. The pattern of presumably loan relationships concerning **os(o)nos* 'ass' and its possible derivation from a southwest Asian word such as Sumerian *anšu-* (which was also employed to designate the 'ass' in Hittite texts) makes a reasonable fit with the archaeological evidence which suggest the diffusion of the domestic ass from southwest Asia to Anatolia and then on into Greece and the rest of the Mediterranean. The other possible route of the domestic ass into Europe, which involves a diffusion from North Africa to southern Spain as early as the third millennium BC, is without such a linguistic "trail". The other linguistic alternative for the 'ass', **gordebhós*, is chronologically and geographically unlikely to extend into deep antiquity although it may have been applied to the domestic ass, presuming that the latter had reached Central Asia by *c* 2000 BC. Such an early arrival is possible as remains of Bronze Age domestic ass have been uncovered at Gonur depe in Central Asia.

The "non-horse" equid that is most likely to have been encountered by the earliest IE-speaking peoples is the so-called "half-ass" or onager (*Equus hemionus*). In the prehistoric period it ranged across the steppe regions from Romania and the Ukraine east to Mongolia, and also southwards including Turkey, Iran, Afghanistan, Pakistan and India. It is identified on wall paintings from Çatal Hüyük from the sixth millennium BC and in the form of animal bones from Neolithic sites in eastern Anatolia in the seventh millennium and in Iraq as early as the fifth millennium BC. The onager had several uses. It appears to have been specifically hunted, e.g., the Yamna-culture site of Mikhaylovka, often presented as a fourth-third millennia BC settlement of early IE-speakers, yielded the remains of 118 onagers compared to 656 horses. Onager hunting, specifically for hides, is also suggested for early Neolithic sites in northern Iraq. But some have suggested that onagers also had other uses, such as serving as draft animals. Given the onager's widespread reputation for a bad and irascible temperament, claims that the onager was deliberately bred (and not just tamed or kept) from perhaps the fifth millennium BC onwards are controversial. Those who support the idea of its domestication cite depictions of what are presumably onagers pulling battle-carts in Mesopotamia from the third millennium BC onwards and Herodotus records that Xerxes's army still fought from onager-driven chariots in the fifth century BC. Those who find such statements incredible in light of the behavior of the animal have suggested that these draft animals are probably a hybrid of a male onager and a domestic ass. The geographical range of the onager encompasses the historical territories of

Anatolian-, Indo-Iranian- and Tocharian-speakers, and possibly of some of the more eastern European stocks. These same territories comprise most although not all of the current IE homeland theories and so it is probable that PIE-speakers, and certainly early east IE stocks, would have been acquainted with the onager. It is for this reason, and possibly because the crossbreeding of onagers and domestic asses may have been widespread, that **gordebhos* is as likely to have indicated the 'onager' as the 'domestic ass'.

The mule, which is the meaning provided by the Latin and Slavic cognates of **mū(k)skos*, is the product of an ass and a mare (the opposite ancestry, i.e., a stallion and a female-ass or jenny yields a hinny). Obviously, its existence in any society is predicated on the presence of both domestic horses and domestic asses and as the latter are not known in southern Europe until about the first millennium BC, this would set a lower time-depth of the reconstruction of an IE *'mule'. Mules seem to have followed the path of the ass, first appearing in the Near East perhaps by the third millennium BC and then westwards into Anatolia (Homer [*Iliad* 24.278] claimed that the Mysians raised asses) and then into Greece and through the Balkans or westwards along the coast to Sicily and southern Italy. As for their introduction into territories proximate to the proto-Slavs, they began to appear on the sites of Greek colonies along the Black Sea coast where their bones may number in the thousands. It should also be noted that we have evidence from the first century AD that the Romans crossbred male onagers with mares and jennies. How much earlier such hybridization was attempted is unknown but it holds out a remote possibility for a somewhat greater antiquity for an animal resembling the mule.

See also HORSE; WAGON. [D.Q.A., J.P.M.]

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ASSEMBLY

?*h₁ŋ-goro/ehₐ- 'in-gathering'. [cf. *IEW* 382–383 (**ger-*); Wat 19 (**əger-*); Buck 11.85]. Grk *ἀγορά* 'assembly', OInd *agāram* 'house'. The comparison, although sometimes cited, is dubious on both phonological and semantic grounds. The Greek form is a deverbative from *ἀγείρω* 'gather together' and even if one posits **hₐgorehₐ-* as the underlying form of the Greek noun this would not yield the Old Indic word but rather an OInd **igāra-*. Thus, if the two words are to be phonologically connected, a prepositional prefix, i.e., **h₁ŋ-*, is more likely. Also to be considered here is OInd *āgāram* 'house' which would have to be a neo-vṛddhied derivative. It is quite possible that the Old Indic words may be related to OInd *nágaram* 'town' and hence be derived from Dravidian. At best a very questionable late regional isogloss built on the root **(hₐ)ger-* 'gather'.

The Greek *ἀγορά* named the place where people assembled to hear their chiefs meet in council and administer justice. The *ἀγορά* was a consecrated open space. In earlier times, it was enclosed by large stones sunk into the earth. Subsequently, the area was adorned with trees, especially plane trees (*Platanus*). In later times, it was built as a square open court surrounded by colonnades. In Athens the term was confined to the assemblies of the phȳloi and demes. In Crete, on the other hand, the term *ἀγορά* continued to be applied to popular assemblies. The *ἀγορά* was thus at the center of political, religious, social and commercial life. With regards to the latter, the *ἀγορά* functioned as the market place and was therefore supervised by a magistrate *ἀγορᾱνόμος* having the same tasks as the Roman *aedīlēs*. The *ἀγορᾱνόμοι* were chosen by lot each year. Their task was to supervise retail trade, test weights and measures, monitor the quality of food and settle disputes among buyers and sellers.

See also SOCIAL ORGANIZATION. [A.D.V.]

ATTAIN

****h₁enek̂-*** 'attain'. [*IEW* 316–318 (**enek̂-*); Wat 44 (**nek-*); Buck 10.61; BK 208 (**nit̰ł[ʰ]-/*net̰ł[ʰ]-*), 407 (**ħin-ak[ʰ]-/*ħen-ak[ʰ]-*)]. OIr *ro-icc* (< **h₁ēnk̂-*) 'reaches', Wels *dianc* 'run away', Lat *nanciō* 'attain', ON *nā* 'approach', OE *geneah* 'is adequate', OHG *ginah* 'is adequate', Goth *ganah* 'suffices', Lith *nešù* 'carry', Latv *nesu* 'carry', OCS *nesǫ* 'carry', Grk *ἐνεγκεῖν* 'to carry', Arm *hasanem* 'arrive', Av *ąšnaoiti* ~ *-nasaiti* 'gains', OInd *aśnóti* ~ *náśati* 'gains', TochA *ents-* 'take, grasp, seize', TochB *eńk-* 'take, grasp, seize'. Practically universal in IE; clearly it is to be reconstructed for PIE. After the loss of laryngeals in the various IE stocks, this word could be phonologically confused with the word for 'bestow' (**h₂/₃enk̂-*). The phonological confusion would have been abetted by the well known interchange of verbs for giving and taking in IE.

****tem-*** 'reach, attain' (pres. ****témeti***). Grk (Homeric) *τέμει* 'arrives, reaches' (reduplicated aorist *τετμεῖν*), TochAB *täm-* 'be born', TochA *cmol* 'birth', TochB *camel* 'birth', *atāmo* 'unfruitful ground'. The geographical distribution of the reflexes of this word would seem to guarantee at least late PIE status. PIE **tem-* 'arrive' would be the telic counterpart of atelic **gʷem-* 'come'. The latter of course has become the term for 'be born' in Baltic (cf. Lith *gemù* 'am born').

See also ACCOMPLISH. [D.Q.A.]

ATTEMPT

****dhers-*** 'venture, be bold; undertake, set about'. [*IEW* 259 (**dhers-*); Wat 14 (**dhers-*)]. Goth *ga-dars* 'dare', Lith *drę̃sù* 'dare', Grk (Lesbian) *θέρσος* 'courage', OInd *dhṛṣnóti* 'is bold, dares', TochA *tsrași* 'strong', TochB *tsirauñe* 'strength'. Possibly related is Lat *īn-festus* 'hostile', *mani-festus* 'palpable'. The distribution makes it likely that the form can be reconstructed to PIE.

***per-** 'trial, attempt'. [*IEW* 818 (**per-*); Wat 50 (**per-*); Buck 9.99; BK 41 (**p[h]ar-/*p[h]ər-*)]. Lat *experior* 'test, attempt', *periculum* 'trial; risk', Grk *πεῖρα* 'trial, attempt', Arm *p'orj* 'test, proof'. Lat *experior* seems to be denominal. Goth *fairina* 'fault' may belong here but is probably better associated with the root **per-* 'pass beyond' as is ON *fár* 'danger'. It is possible that this entire cognate set should be associated with **per-* 'pass beyond'. OIr *aire* 'watch over', although sometimes cited here, is probably not related.

See also Accomplish; Set in Motion. [M.N.]

AUGER

***térh₁trom** 'auger'. [*IEW* 1071 (**ter- ~ *terə-*); cf. Wat 70 (**ter-*); GI 612 (**t[h]er-*)]. OIr *tarathar* 'auger', Wels *taradr* 'auger', Lat *terebra* 'auger', Grk *τέρετρον* 'borer, gimlet'. From **terh₁-* 'pierce'. Though nouns of instrument in **-trom* are a very productive category in late IE, it is quite possible that this particular derivative with this meaning was already present in (late) PIE.

The auger is primarily an instrument for boring through wood as is seen in its various contexts, e.g., the first syllable of the Old Irish form, i.e., *tar-*, was ingeniously explained by medieval Irish etymologists as from *daur* (*DIL dair*) 'wood' while the word occurs in the *Odyssey* (5.245) where Odysseus, after having planed down timbers, employs an auger to bore them so that dowels may be inserted to hold them together to form a raft. Hence, while the underlying meaning might also accommodate the meaning of 'awl', the general context here appears to suggest a woodworker's tool. An obvious technological context for the use of a borer in PIE would be in the drilling of mortises for fastening with tenons the blocks of timber that would have formed the segments of a disc wheel or other parts of a wheeled vehicle (bronze awls or augurs have been found associated with wagon burials in the steppe region of the fourth-third millennia BC). Drills were also employed in prehistory for the perforation of shells or small stones for beads and, on a larger scale, to drive a shaft through a stone ax, mace or hammer. In drilling through stone the drill would be assisted by sand as an abrasive to bore through the stone. Although all the words found in the historically attested IE stocks indicate a metal tool, a stone borer or some other form of organic borer, e.g., bone tube, would have been employed both during and long before any period one might wish to assign to PIE "unity".

See also Awl; Nave; Pierce; Tool; Wagon; Wheel. [D.Q.A., J.P.M.]

AUNT

***mehₐtruhₐ-** 'mother's sister'. [*IEW* 701 (**mātruu̯iā*); cf. Wat 39 (**māter-*); Buck 2.52]. OE *mōdrige* (< **mehₐtrui̯ōn*) 'mother's sister', Fris *modire* 'mother's sister', Grk *μητρυιά* 'stepmother', Arm *mawru* 'stepmother, mother-in-law'. The underlying formal equations for Germanic, Greek and Armenian are so good that they render independent development unlikely, at least for some of the reflexes of the western and central part of the IE world. Robert Beekes has suggested that **mehₐtruhₐ-* is a feminine derived from **mehₐtrōus* which gives Grk *μήτρως* 'mother's brother, any relation on the mother's side'. The antiquity of the word for 'mother's sister' would then presuppose the greater antiquity of the word for 'mother's brother' even though this word is attested solely in Greek.

Wordick attempted to add further forms to the set derived from **mehₐter-*: OWels (pl.) *modreped* 'mother's sisters', Wels *modryb* 'aunt, uncle's wife, married woman', OCorn *modereb* 'mother's sister', Lat *mātercula* 'little mother', OInd *mātṛkā* 'mother; nurse; grandmother' to reconstruct 'mother's sister' as **mehₐtṛkʷehₐ*, but his evidence is insufficient. While OWels *modrep* and OCorn *modereb* 'mother's sister' may reflect such a proto-form, Lat *mātercula*, meaning 'little mother', neither matches the semantics nor the phonology, being a diminutive (in which the *c* is a dissimilation of original **t* before **l*, originally **mehₐter-tlehₐ*). His attempt to set these alongside the German cognates (e.g., OE *mōdrige* 'mother's sister, cousin') also fails as the *g* is a palatal glide reflecting Proto-Gmc **mōðuri̯an-* (shown, for example, in variants in which the semivowel is spelt *ig*, also seen in the Frisian cognate *modire*). Nor can OInd *mātṛkā* 'mother; nurse; grandmother' be certainly placed here as it probably employs the common Indic suffix **-kā* < PIE **-kehₐ-*, unrelated to the **-kʷehₐ-* that appears in British Celtic. Lat *mātertera* 'maternal aunt' and Panjabi *mater* 'mother-in-law' reflect another common suffix **mehₐt(e)r-terehₐ-*. All of these other forms are probably independent innovations as also are Grk *θεῖα* (a late word attested only from the first century AD onwards) and *τηθίς*, which refer to both patrilateral and matrilateral aunts, and are based on common child-language forms, e.g., NE *daddy*.

In addition to the derived form above, the maternal aunt may have been called by the same term as 'mother'. This at least would be the expected term in four of the six kinship systems that one might possibly ascribe to PIE, i.e., Hawaiian, Iroquois, Crow and Omaha. Further evidence comes from a variety of sources. Latin kinship terminology provides for brother's near relative or german (*fratres germani*); a similar distinction is observed in the Irish use of *derb* 'true', e.g., *derbrāthair* 'brother (by blood)', and the Old Persian designation of a brother german as *hamapitar-* 'of the same father', *hamātar-* 'of the same mother'. The inference is that 'brother' and 'sister' referred to more than the siblings german because the words 'mother' and 'father' were extended to people beyond the biological parents, namely their siblings. To this might be added the fact that a variety of terms were independently created to express the concept 'mother's sister'.

It is difficult if not impossible to reconstruct a PIE word for 'father's sister'. A special term might be predicted if the kinship system were Sudanese, Iroquois, Crow or Omaha (Eskimo would have generalized a word for 'aunt' while Hawaiian would have employed the same word as 'mother'). But other possibilities existed since sub-types of the Omaha system (II and IV), which reveal skewed generations, label

the paternal aunt 'sister', i.e., *suésōr. There may be some evidence for this in an Irish source where OIr siur 'sister' seems to be equated with 'woman's father's sister'. But many other terms are derived from the word for father by various devices. Grk *πατριᾶ* and Av *tūiryā* 'father's sister' are simple, productive *io*-derivatives for words for 'uncle'. OE *faðu, -e* and Fris *fethe* 'father's sister' may be related to the root for 'father', but that is itself uncertain; OHG *basa* 'father's sister' cannot be so related. Grk *τηθίς* 'father's sister, mother's sister', *θεία* 'aunt' and *τήθη* 'grandmother' are Greek innovations based on a child-word stem also seen in NE *daddy* and OCS *dědę* 'grandfather' while Lat *amita* 'father's sister, paternal aunt' is similarly formed; the rare Late Lat *ava* 'grandmother' is from *avus* 'grandfather'; Lith *avà* 'wife of mother's brother' was created from **avas* 'mother's brother'; OCS *stryja* 'father's sister' is a feminization of *stryjĭ* 'father's brother, uncle'. There is no certain evidence then for a word for 'father's sister' although it might be said that none of the stocks reveal a pattern that might be described as either Eskimo or Hawaiian in structure.

See also KINSHIP; UNCLE. [M.E.H.]

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AUROCHS *see* COW

AUTUMN *see* SEASONS

AWAKE

h₁ger- 'awake'. [*IEW* 390 (**ger-*); Buck 4.63]. Alb *ngre* 'awake, raise up, lift', Grk (perf.) *ἐ-γρή-γορα* 'was awake', Av (perf.) *jagāra* 'was awake', OInd *jāgárti* 'is awake, awakes'. Perhaps also Lat *expergō* 'I awaken', ON *kerskr* 'fresh, lively', MHG *karsch* 'fresh, awake, lively'. This root shows some diversity in formations within particular stocks (a possibly laryngeal-less origin for the Latin form) but its distribution is broad enough to point to a likely PIE root.

See also DREAM; SLEEP. [J.C.S.]

AWAY

h₄eu 'away (from)'. [*IEW* 72–73 (**au-*); Wat 4 (**au-*)]. OIr *ō* 'from', OWels *o* 'from', Lat *au-ferō* 'carry away', OPrus *au-* 'away', Lith *au-* 'away', Latv *au-* 'away', OCS *u-* 'away', Hit *awan* 'away', *u-* 'hither', Av *ava* 'down, off', OInd *áva* 'from'. Cf. Alb *hyj* (< **h₄u-nie/o-*) 'enter'. Old in IE.

h₂et 'away, beyond'. [*IEW* 70–71 (**ati-*)]. OIr *aith-* 'back, out of', Lat *at* 'but', Goth *aþ-þan* 'however', Lith *ato-* 'back, away', OCS *otŭ* 'from, again', *ot-* 'away, out', Grk *ἀτάρ* 'however', OInd *átas* 'from there', TochA *atas* 'away', TochB *ate* 'away'. Old in IE.

dē 'away (from)'. [*IEW* 181–183 (**de-*); Wat (**de*); GI 367]. OIr *di ~ de* 'of, from', OWels *di* 'from', Lat *dē* 'away'. A far western innovation in form and meaning from **de/do* 'toward'.

See also ADPREPS; TO. [D.Q.A.]

AWL

h_xóleh_a- 'awl'. [*IEW* 310 (**ēlā*); GI 817]. ON *alr* 'awl', OE *eal ~ æl* 'awl' (> NE *awl*), OHG *alasna ~ alansa ~ alunsa* 'awl', Khot *aiysna-* (< **alaznā-*) 'awl', OInd *ā́rā* 'awl'. A Goth **alisna-* is reasonably certain on the basis of the (borrowed) Spanish *alesna* and French *alêne* 'awl'. Cf. OHG *āla* 'awl' (< **h₁ēleh_a-*). The evidence is very good that we have here a word of PIE antiquity. The word was borrowed into Finno-Ugric, e.g., Finnish *ora* 'sharp metal object, drill', Veps *ora* 'drill'.

The awl, a pointed tool which is employed to pierce a small hole in leather or wood, is ubiquitous across Eurasia from the Palaeolithic onwards. Originally, awls were fashioned from bone but they were manufactured from copper already during the Neolithic and are among the earliest and most widely-attested metal tools known in Eurasia.

See also AUGUR; PIERCE; TOOL. [D.Q.A., J.P.M.]

AWN *see* EAR (OF GRAIN)

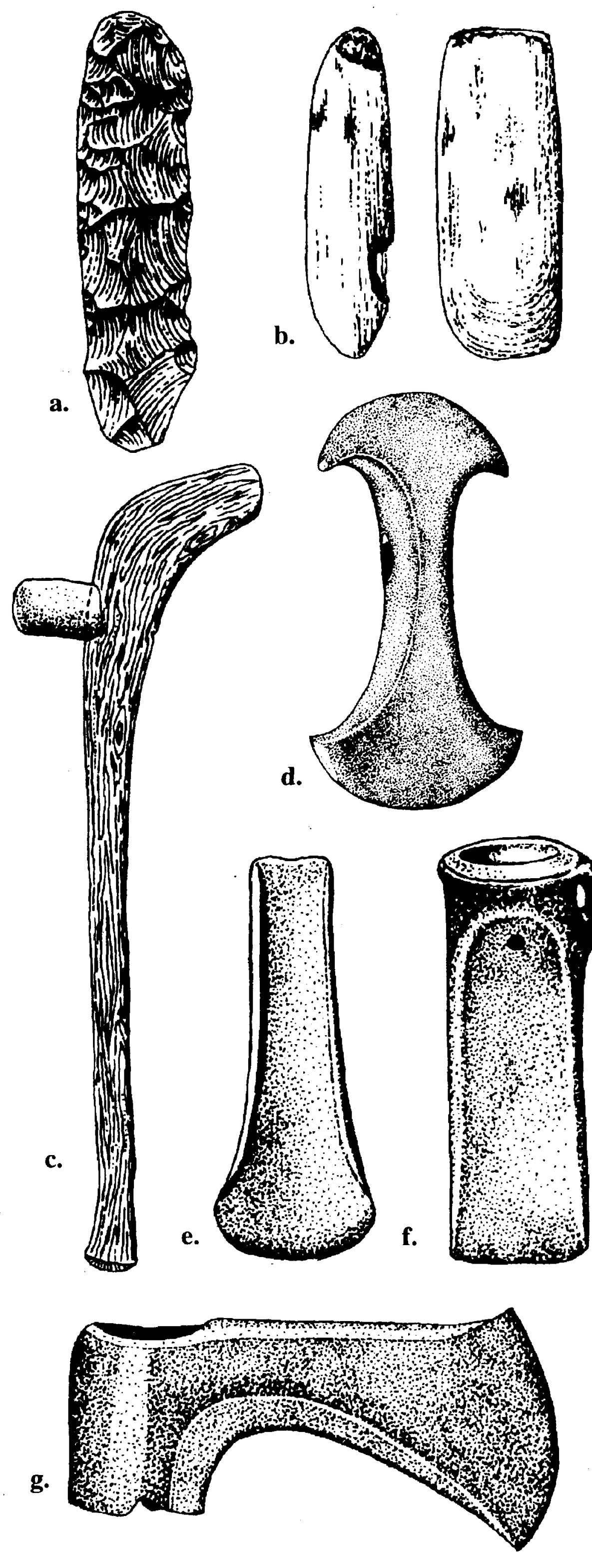
AX

h₄edhés (***h₄odhés*** or ***h₁odhés***?) 'ax, adze'. [GI 620 (**a/odʰes- ~ *a/odhH-es-*); Puhvel 1:227–228]. OE *adesa ~ adese* 'adze' (> NE *adze*), Hit *ates- ~ atessa-* 'adze, ax, hatchet'. Though found in only two stocks, and within Germanic, only in English, there is nothing in the geographical distribution of this word that suggests a "cultural borrowing" anywhere along the line. Therefore, it is very likely that we have a common inheritance of a PIE word for 'ax, adze'.

pelek̑us 'ax'. [GI 620 (**pʰelek̑ʰu-*), 771; Buck 9.25]. Myc *pe-re-ke-we* 'ax', Grk *πέλεκυς* 'ax', Oss *færæt* 'ax' (from some Iranian source > TochA *porat* 'ax', TochB *peret* 'ax'), OInd *paraśú-* 'ax'. The word is clearly old in Greek where it occurs both in the Linear B tablets and in Homer (in its base form and in a number of derivatives), the later context revealing that it meant both a tool and a battle-ax. The Old Indic word also reveals itself as a tool, e.g., where it is employed to fashion wooden containers for Soma (*RV* 10, 53, 9) while in other contexts (*Jaiminiya-Brahmana* 2.232) it refers to a battle-ax.

PIE **pelek̑us* is usually taken as a loanword into the various IE groups where it is found and because of the palatalization in Old Indic, is presumed to be an old loan (before the satəmization of the Indo-Iranian stock), i.e., before *c* 2000 BC. It is commonly derived from a Semitic form but here there is considerable debate over the underlying meaning of Semitic **plq* which is taken to mean 'split apart; ax' by GI but 'to stick, kill' by Igor Diakonov. GI hence compare the IE form with Akkadian *pilakku* which they translate as 'ax' while Diakonov argues that the word means 'spindle; stiletto'. GI derive 'spindle' from a homophonous root (but cf. OHG *dehsa* 'ax, hatchet', MHG *dëhse* 'spindle') and agree with Diakonov that it may derive from Sumerian *balag* 'spindle'. It is perhaps, therefore, a late 'wander-word' of the southeast of the IE world, Semitic and Sumerian.

?*tek̑so/eh_a- ~ *tek̑sleh_a- 'ax, adze'. [*IEW* 1058–1059



Ax a. Flint ax; b. Polished stone ax (Linear Ware culture); c. Neolithic hafted stone ax from Switzerland; d. Stone "battle-ax" from the TRB culture, Denmark; e. Early Bronze Age flanged ax; f. Later Bronze Age socketed ax; g. Early Bronze Age shaft-hole ax from Hungary.

(_*tek̂þ-lā-_); cf. Wat 69 (_*teks-_); GI 611 (_*t^{h}ek̂^{h}s-_); Buck 6.33; BK 91 (_*t[^{h}]ak[^{h}]-/*t[^{h}]ək[^{h}]_)]. From _*tek̂seh_$_a$-: OHG _dehsa_ 'ax, hatchet', MHG _dëhse_ 'spindle', Av _taša-_ 'ax'; from _*tek̂sleh_$_a$-: OIr _tāl_ (< _*tōk̂slo-_) 'ax', ON _þexla_ 'adze', OHG _dehsala_ 'adze, hatchet', RusCS _tesla_ 'ax'; cf. similar derivatives: Lat _tēla_ (< _*tek̂s-leh_$_a$-) 'cloth', Rus _tës_ 'sawn planks', Czech _tes_ 'timber', Grk **τέχνη** (< _*tek̂s-neh_$_a$-) 'handicraft, art'. From _*tek̂s-_ 'fabricate', thus originally 'fabricator' or 'tool for fabricating'. It is possible that these words all reflect independent creations, but it seems likely that they reflect at least late PIE creations.

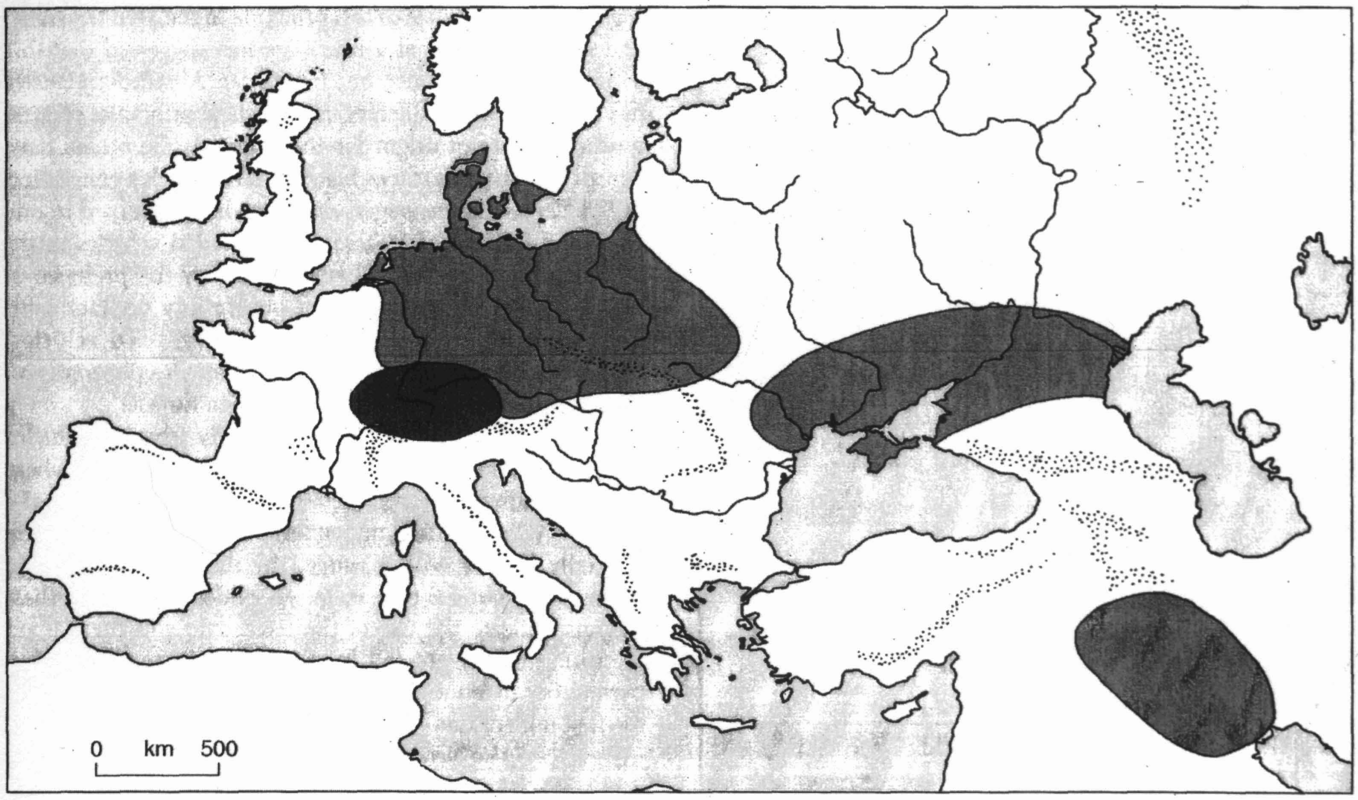
_?*h_$_a$_eg_^{w}_isi̯(e)h_$_a$- 'ax'. [_IEW_ 9 (_*ag_^{u}_(e)sī ~ *aksī_); Wat 1 (_*agwesī_); Buck 9.25; BK 401 (_*ħak'-/*ħək'-_)]. Lat _ascia_ 'adze of carpenters and masons', ON _øx ~ ax_ 'ax', OE _æx ~ æsc ~ æces_ 'ax' (> NE _ax_), OHG _ahhus ~ acchus_ 'ax', Goth _aqizi_ 'ax' (Germanic from Proto-Gmc _*akwizjō ~ *akusjō_), Myc _a-qi-ja_ 'ax', Grk **ἀξῑνη** 'ax'. If the apparent Proto-Gmc _*akusjō_ is from _*akwusjō_ with _*-u-_ in the middle syllable rather than inherited _*-i-_ (compare Goth _jukuzi_ 'yoke' with OE _geoc_ 'yoke', presupposing _*jukizi_) and thus secondary within Germanic, then _*akwizjō_ is directly relatable to Myc _a-qi-ja_ and reflects a PIE _*h_$_a$_eg_^{w}_isi̯(e)h_$_a$- or _*h_$_a$_egu̯isi̯(e)h_$_a$-. Alphabetic Grk **ἀξῑνη** and Lat _ascia_ reflect _*h_$_a$_eg_$^{(w)}$_si̯(e)h_$_a$-. The two putative PIE forms are similar but not the same. The difference between the two stages of Greek is striking. It seems likely that the history of this word is confused at some point.

?*sekūr- 'ax'. [_IEW_ 895–896 (_*sekūrā-_); GI 621, 771 (_*sek_^{h}_ūr-_); Buck 9.25]. Lat _secūris_ 'ax', OCS _sěkyra_ 'ax'. From _*sek-_ 'cut'. Other formations from the same verbal root include Lat _sēcula_ 'sickle', OE _sigðe_ (< _*sekiteh_$_a$-) 'scythe' (> NE _scythe_), _sagu_ (< _*sokéh_$_a$-) 'saw' (> NE _saw_). The apparent (almost) agreement of Latin and Old Church Slavonic has been taken as evidence of a common inheritance or of interdialect borrowing. GI find a possible Semitic origin for this word, e.g., Akkadian _šukurru_ 'ax' which they suggest may ultimately be a loan from Sumerian. Diakonov regards the loan hypothesis as unconvincing as the Akkadian word actually means 'javelin'. That the word is built on a widespread and convincing PIE verbal root militates against GI's attempt to derive this word from Semitic or some other southwest Asian language.

The distinction between the ax and the adze is that the former has a symmetrical blade which is mounted parallel with its handle while the adze has an asymmetrical edge which is mounted at right angles to its handle. The ax then is employed for a cutting motion while the adze is used for a planing motion, e.g., the rough shaping of wood.

In terms of antiquity, the ax is one of the oldest forms of stone tools employed by the human species where it was initially held in the hand and used for smashing bones and tearing up carcasses and then, subsequently, hafted in a wooden handle and employed for cutting wood.

During the Neolithic period the axes of Eurasia might be made of flint (chipped stone tools) or from some other type of stone where the surface might be ground and polished



Axle a. Distribution of known axle types: light shading = fixed-axles, darker shaded area = rotating-axle territory.

(polished stone tools); in some regions such as Scandinavia, flint axes may also have been polished. Axes were generally simple flat axes but in a number of later Neolithic cultures (e.g., Copper Age cultures of the east Balkans, the TRB culture of northern and central Europe) and still more recent cultures (e.g., the Corded Ware culture), the axes were often perforated for hafting. These are often termed "battle-axes" and when found in graves such as those of the Corded Ware culture (in parts of northern Europe known as the "Battle-ax culture"), they are clearly a male-associated tool or weapon. While they may have served as weapons, they were also employed as tools; conversely, there is dramatic evidence from the Linear Ware culture of the earlier Neolithic that simple unperforated stone axes were used for smashing in the head of one's enemy. It might be observed that despite generations of references to the earliest Indo-Europeans as "battle-ax-wielding warriors", there is no word which clearly reconstructs the meaning 'battle ax' from the cognate sets listed above. From the Neolithic period also come both copper flat axes and perforated axes, especially in southeastern Europe. The period of the earliest texts revealing terms for axes is the Bronze Age by which time axes were manufactured from bronze, an alloy of copper and tin, which yielded a very much stronger implement than the earlier copper.

See also CRAFTSMAN; MAKE; STONE; THUNDER-GOD; TOOL.

[D.Q.A., J.P.M.]

Further Readings

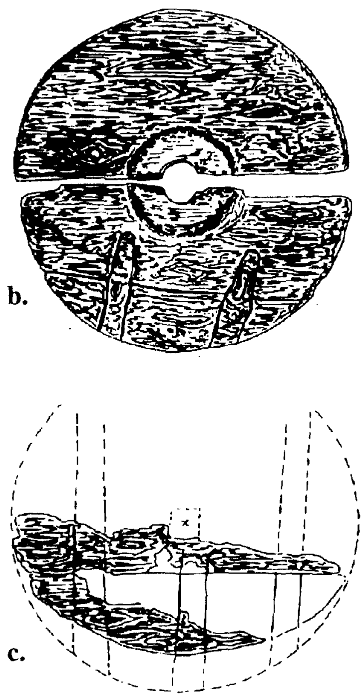
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AXLE

h_aeḱs- 'axle'. [*IEW* 6 (**aĝes- ~ *aḱs*); Wat 1 (**aks-*); GI 625 (**Haḱs-*); Buck 4.30]. Lat *axis* 'axle, axis', OE *eax* 'axle, axis', OHG *ahsa* 'axle, axis', OPrus *assis* 'axle, axis', Lith *ašis* 'axle, axis', OCS *osĭ* 'axle, axis', Myc *a-ko-so-ne* 'axle', Grk *ἄξων* 'axle, axis', Av *ašayå* (dual) 'shoulders', OInd *ákṣa-* 'axle, axis'. Derivatives in **-l-* which mean 'axle' are Wels *echel* 'axle', ON *ǫxull* 'axle' (by borrowing > NE *axle*). Other derivatives in **-l-*, particularly **h_aeḱsleh$_a$-*, mean 'shoulder(-joint)', presumably the older meaning of this whole family and which is preserved in the underived **h_aeḱs-* only in Avestan (for 'axle' and 'shoulder[-joint]'; one should compare the relationship of 'nave' and 'navel'); cf. also OIr *ais* 'back'. Though patently a metaphorical extension of 'shoulder(-joint)', the meaning 'axle' was well-established by late PIE times. Some have suggested the reverse with the word derived ultimately from **h_aeĝ-* 'drive' by way of nominalization to an *s*-stem **h_aĝes-* > **h_aḱs-* and thus variously explained with reference to the rotating movement of the axis or its wheels.

The axles on the earliest wheeled vehicles in western



Axle b. Disc wheel with fixed-axle from Denmark; c. Disc wheel with rotating-axle from Switzerland.

Eurasia were of two types. In Mesopotamia, the Pontic-Caspian steppe, and northwest Europe, vehicles rode on a fixed axle, i.e., the axle was mounted directly onto the base of the wagon on which the wheels, with a round axle-hole, rotated. In Switzerland and southwest Germany, however, the axle-hole was rectangular and both wheels and axle rotated together. The presence of this principle in the Mediterranean and Atlantic Europe at a later date has suggested that this second region was once much broader. Alexander Häusler has argued that the different construction principles suggest multiple places of origin for the wagon while others have argued that the differences hardly warrant such a conclusion and prefer to see the wagon as having been invented in one place and diffused elsewhere. That wheeled vehicles might be independently invented is indicated by the presence of wheeled toys in Mesoamerica before any contact with Europeans; however, the emergence of wheeled vehicles, whatever their axle-construction, is very much a phenomenon of the fourth and third millennium BC in Eurasia.

The most abundant evidence for early wheeled vehicles derives from the steppe region north of the Caucasus where several hundred have been found in burials dating from the fourth through the third millennium BC. Here the axles were generally narrow with a gauge, the distance between the wheels, of about 1.0 to 1.10 m. All evidence for the earliest wagons indicate the use of the fixed axle and there is no indication of the pivoted front axle, the type of axle that permits one to reduce more effectively the turning circle, until the first millennium BC.

See also NOVOTITOROVKA CULTURE; SHOULDER; WAGON; WHEEL; YAMNA CULTURE. [D.Q.A., J.P.M.]

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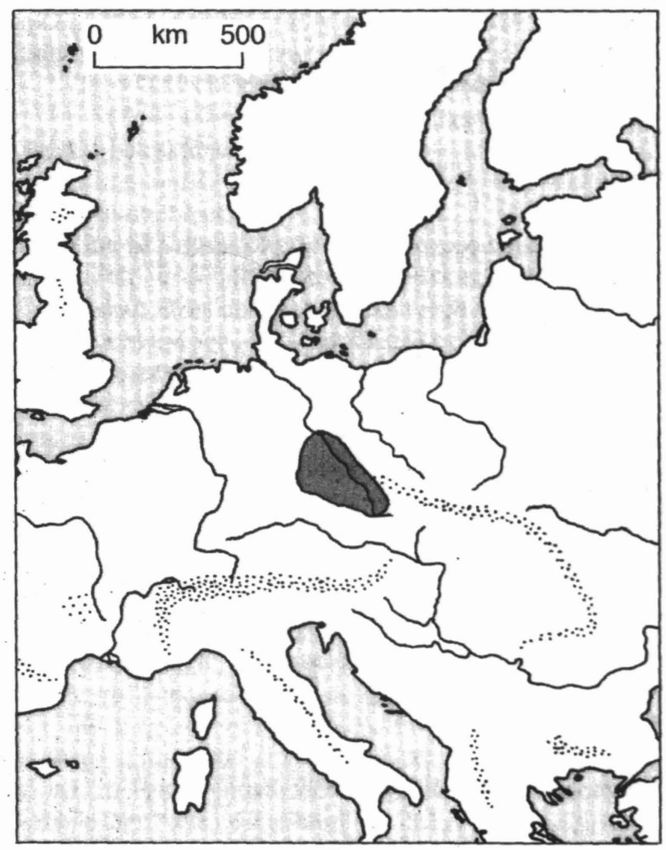
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·B·

BAALBERGE GROUP

This variant of the TRB culture, dated to *c* 3800–3500 BC, is essentially known from its mortuary practice. Approximately two hundred Baalberge graves are found distributed from central Germany to Bohemia. The graves were set in barrows which may include up to ten burials and the primary burial might be placed in a stone cist and accompanied by ceramics not only of TRB derivation but also exhibiting influences of the more easterly Baden and Bodrogkersztúr cultures. These barrows were re-used in subsequent periods (by the Walternienburg/Bernburg, Globular Ampora, Corded Ware and Únětice cultures) and provide relative chronologies for a variety of the cultures of this region.

The importance of the Baalberge group in discussions of the IE problem concerns its "eastern" affiliations since some have argued that it was the product of steppe pastoralists, presumably early Indo-Europeans, migrating into central Europe. Such an argument derives from the observation that both the Baalberge and the steppe tribes of the "Kurgan tradition" raised barrows over their dead and they buried the deceased in the flexed position on their right side (alleged by some to indicate male social dominance). The association of the Baalberge group with the steppe pastoralists of the Kurgan tradition is, however, unsupported by both the evidence of physical anthropology which markedly distinguishes the two populations and by the fact that there are no intrusive steppe barrows within nearly five hundred kilometers of the Baalberge group. It is also argued that the precise burial posture of the dead, with the hands held before the face in the "eating position" is not matched by steppe burials nor do they exhibit the intensive use of ocher in the grave also seen in steppe burials. Hence, a local origin within the early TRB culture is far more widely accepted.



Baalberge a. Distribution of the Baalberge group.

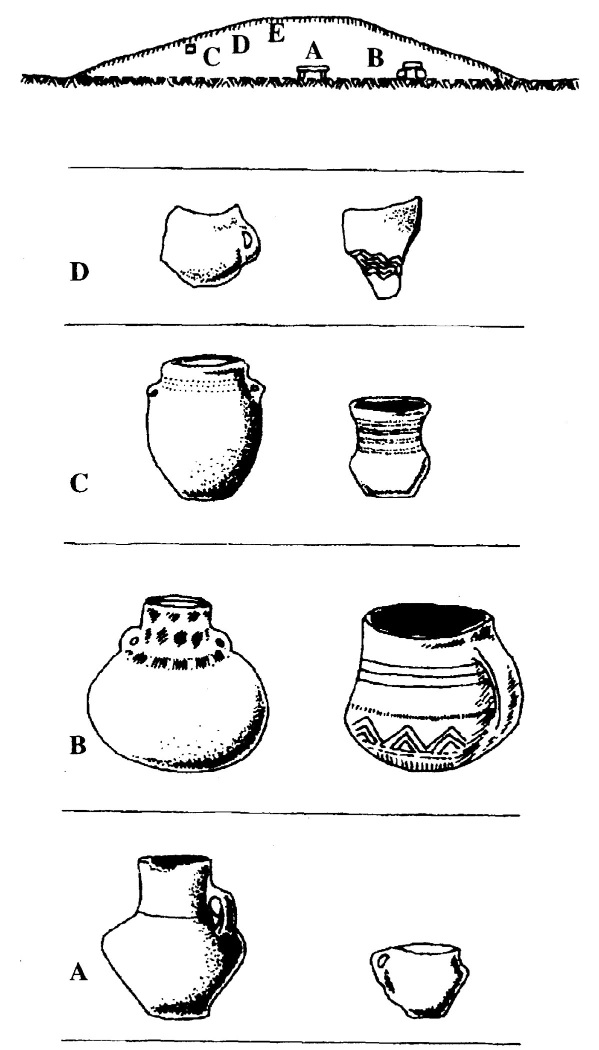
In addition to its origins, the fate of the Baalberge group is also seen as relevant to IE expansions since some regard it to be ancestral to the Corded Ware horizon that spanned northern and central Europe and has been widely acknow-

ledged as Indo-European. Again the reasons for such association tend to emphasize the parallel use of the tumulus over burials known in both cultures.

See also CORDED WARE CULTURE; INDO-EUROPEAN HOMELAND; TRB CULTURE. [J.P.M.]

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Baalberge b. The Baalberge barrow and its stratigraphy (A = Baalberge group; B = Globular Amphora culture; C = Corded Ware culture; D = Early Bronze Age pottery; E = Location of Early Bronze Age daggers).

BABBLE

?*baba- 'babble'. [*IEW* 91 (**baba-*); Wat 4 (**baba-*)]. Lat *babit* 'bears himself proudly, prances', *babiger* 'foolish, simple', NE *baby, babble*, MHG *bābe ~ bōbe* 'elder, mother', OPrus *bebint* 'mock', Lith *bóba* 'old woman', Latv *bibinât* 'babble', OCS *baba* 'old woman', SC *brbljati* 'stammer', Alb *bebe* 'newborn child', Grk *βαβάζω* 'babble', OInd *bababā-karóti* 'crackle of a fire'. Widespread but clearly an onomatopoeic formation; these words are unlikely to represent anything certain that could be reconstructed for PIE antiquity.

?*lal- 'babble'. [*IEW* 650 (**lal(l)a-*)]. Lat *lallō* 'sing during sleep', NHG *lallen* 'stammer, babble, speak indistinctly', Lith *lalúoti* 'stammer', Rus *lál* 'babbler', Grk *λάλος* 'babbling; loquacious', *λαλέω* 'talk, chat, prattle', Hit *lala-* 'tongue', OInd *lalallā* 'indistinct or lisping utterance'. Surely onomatopoeic in origin. It is possible that the original onomatopoeia dates back to PIE times.

See also STAMMER. [D.Q.A.]

BACK[1]

***kûh$_x$los** 'back'. [*IEW* 951 (**(s)kū-lo-*)]. OIr *cūl* 'back', Wels *cil* 'back', Lat *cūlus* 'rear-end', OInd *kū́la-* 'slope, back; rear of army' (for the semantics compare NHG *rücken* 'back' and the cognate NE *ridge*). From **keuh$_x$-* 'be bent' (cf. **kéuh$_x$-* 'hernia'). Related is NPers *kūn* 'backside, buttocks, anus', *kūna* 'buttocks (of horse or man)'. This Persian data suggest perhaps the existence of a PIE *l/n* heteroclite. Grk (Hesychius) *κῦσός* 'anus' also belongs here (outside of Hesychius this word appears in compounds, always with reference to pederasty; Hesychius also gives 'vulva' as a meaning of *κῦσός* but that probably reflects a misunderstanding of one or more of his sources), though the source of the *-s-* is obscure. At least late PIE.

See also BODY; BUTTOCKS. [D.Q.A.]

BACK[2]

***h$_4$épo** 'back, behind' (temporal 'afterward'). [*IEW* 53 (**apo-*); Wat 3 (**apo-*); BK 435 (**ap[h]-/*əp[h]-*)]. Lat *ab* 'from', ON *af* 'from', OE *æf-* 'from', OHG *aba* 'from', Goth *af* 'from, since', Alb *prapë* (< **per-h$_4$apo-*) 'back', Grk *ἀπό* 'from', *ἄψ* 'backwards, back again', Hit *āppa* 'behind', Av *apa* 'away from', OInd *ápa* 'away, forth', *ápatyam* 'offspring'. Old in IE. A shortened form **(h$_4$)pó* is seen in Lat *po-situs* 'situated', OPrus *pa-* (a verbal prefix), Lith *pa-* (a verbal prefix), OCS *pa-* (a verbal prefix), perhaps Alb *pa* 'without', Av *pa-zdayeiti* 'frightens away'. Cf. Alb *hap* (< **h$_4$ép-e/o-*) 'open'.

***h$_4$ep-ér-** 'back, behind' (temporal 'afterward'). [*IEW* 53 (**ap-ero-*); BK 435 (**ap[h]-/*əp[h]-*)]. ON *afar-* 'very', OE *eafora* 'descendant', OHG *avar* 'again, a second time', Goth *afar* 'after', *afara* 'descendant', Lycian *epre/i-* 'rear-, later', Av *apara-* 'behind, following, other', OInd *ápara-* 'later'. A widespread derivative of the previous entry. Cf. Lat *aperiō* 'open' and, reflecting **h$_4$ep-tér*, NE *after*.

***pos** 'immediately adjacent; behind, following'. [*IEW* 841 (**pos*); Wat 3 (**apo-*)]. Lat *posterus* 'behind', Lith *pàs* 'at, with', *pãstaras* 'last, furthest behind', OCS *po* 'after', *pozdŭ* 'late', *pozdě* 'behind, after', perhaps Alb *pa* 'without', Grk (dial.) *πός* 'near, by'. Originally, possibly a genitive of **h$_1$ep-* 'near, on' and/or **h$_4$ep-* 'back, behind'.

***posti** 'after'. [*IEW* 841 (**pos-ti*); Wat 3 (**apo-*)]. Lat *post(e)* 'after', *postumus* 'after death', Arm *əst* 'after', TochB *pest* ~ *päst* (particle indicating completion), *postäṃ* (< **posti-nu*) 'after'. A derivative of **pos*.

po-skʷo- 'behind'. [*IEW* 841 (**pos-ko-*)]. Lith *paskuĩ* 'behind; after that, later on', Alb *pas* 'after', Av *paskāṱ* ~ *pašca* 'behind', OInd *paścāt* ~ *paścā́* 'behind, westerly' (because the west is to one's back when one is oriented toward the rising sun). An eastern compound of **po* 'behind' + **sekʷ-* 'follow'.

See also ADPREPS; DIRECTION. [D.Q.A.]

BAD

***$h_a$eghlos** 'unpleasant'. [*IEW* 8 (**agh-(lo-)*); Buck 16.72; BK 302 (**ħagʸ-/*ħəgʸ-*)]. MIr *ālad* 'wound', MWels *aeleu* 'painful' (< Celt **agl-*), OE *egle* 'disagreeable, loathsome', Goth *agls* 'injurious', Av *aγō* 'bad', OInd *aghá-* 'bad'. Given that the Old Indic form in *-l-* (*aghalá-* 'terrible') may be a late development, this may reflect parallel formations in Indic and the northwest from **$h_a$egh-* 'unpleasant, disagreeable'.

dus- 'bad' (as prefix). [*IEW* 227 (**dus-*); Wat 15 (**dus-*); GI 683 (**t'us-*); Buck 16.72, see also 16.19; BK 154 (**tʸaw-/*tʸəw-*)]. OIr *do-* ~ *du-* 'bad, mis-', Wels *dy-* 'bad' (attested in only a few words), perhaps Lat *dif-* 'un-', ON *tor-* 'un-', OE *tor-* 'un-', OHG *zur-* 'un-', Goth *tuz-* 'un-', OCS *dŭždĭ* 'rain' (< **dus-dyus* 'bad sky'), Rus *doždĭ* 'rain', Grk *δυσ-* 'bad, mis-', Arm *t-* (or perhaps from **de-* or **dis-*) 'un-', Av *duš-* 'bad, mis-', OInd *duṣ-* 'bad, mis-'. This form is solidly reconstructed to PIE in light of being a highly productive prefix (along with its counterpart **$h_1$su-* 'good') across a broad range of dialects.

***ĝhalh$_x$ros** 'evil, unpleasant, unhealthy'. [*IEW* 411]. OIr *galar* 'sickness, distress', Hit *kallar* 'something evil or unpleasant', *kallara-* 'evil, unpleasant, unfavorable, unhealthy'. Attested only in Celtic and Anatolian but the geographical distribution of those attestations almost guarantees its PIE status. Related are ON *galli* 'fault, flaw', OE *gealla* 'galled place on the skin', MLG *galle* 'wounded place on the skin' (Gmc < **ĝhal-n-on*). The Celtic and Anatolian form on the one hand and the Germanic on the other suggest a PIE **ĝhalh$_x$-r/n-*. Morphologically distinct but also related are Lith *žalà* 'damage, loss; injury, harm, wrong', Ukr *zolok* 'painful place of a wound', Rus *nazóla* 'suffering, distress' (Balto-Slavic < **ĝalh$_x$o/eh$_a$-*).

***$h_{2/3}$u̯op-** 'treat badly' (pres. ***$h_{2/3}$u̯ópei**). [cf. *IEW* 1107 (**upo-*); Wat 76 (**wep-*); Buck 16.72]. OIr *fel* 'bad', OE *yfel* 'bad, evil' (> NE *evil*), OHG *ubil* 'bad, evil', Goth *ubils* 'bad, evil' (Celt and Gmc < **$h_{2/3}$upélos*), Hit *huwappi* ~ *huwapzi* 'ill-treats, harrows, harasses, disfigures, despoils', *huwappa-* 'evil, ill, bad'. Attested only on the western and southern margins of the IE world, this word is a strong candidate for PIE status. The alternative etymology whereby the Celtic and Germanic words are derivatives of **$h_4$upo-* 'up from under' (**$h_4$upélos* would then be originally 'extreme, excessive') is not nearly as likely.

leud- 'act hypocritically, badly'. [*IEW* 684 (**leud-*); cf. Wat 37 (**leud-*); Buck 12.56]. ON *ljōtr* 'ugly, bad', OE *lot* 'deception', Goth *liuta* 'hypocrisy, treachery', OPrus *laustinti* 'humble, abase', Lith *liūtù* 'be sad', OCS *ludŭ* 'foolish'. Wels *lludded* 'exhaustion, fatigue, tiredness' may belong here although the meaning deviates somewhat. Other Germanic forms such as OHG *luz(z)il* 'small', Goth *leitils* 'little', etc. have also been placed here but seem to lack certain connection. The distribution suggests a northwestern term.

See also PAIN. [J.C.S., D.Q.A.]

Further Readings

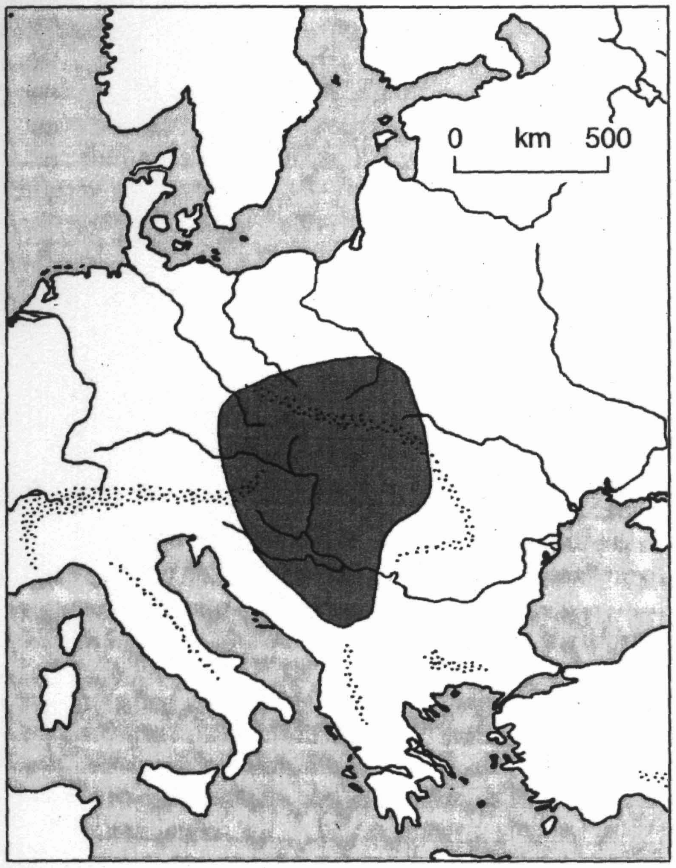
Costa, G. (1990) *I composti indoeuropei con *dus- e *su-*. Pisa, Giardini.

Zimmer, S. (1995) Indogermanisch **$h_1$su-* and **dus-* in Kymrischen. *Zeitschrift für celtische Sprachforschung* 47, 176–200.

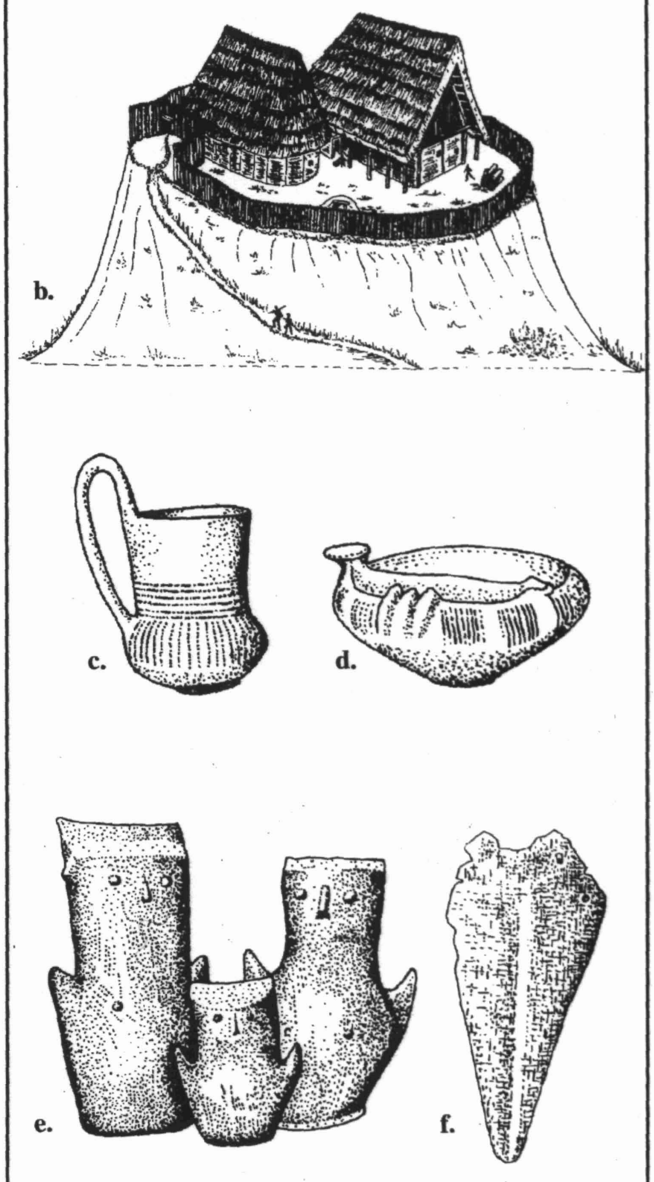
BADEN CULTURE

The Baden culture is a large late Copper Age or early Bronze Age culture of east-central Europe centered on the Carpathian basin and extending northwards into Poland and south into Croatia and Bosnia. The culture dates to *c* 3600–2800 BC and it is a major component of a series of cultures extending across the Balkans (e.g., Cernavoda I, Ezero) into northwest Anatolia (Troy) that has sometimes been designated the "Balkan-Danubian complex" although some archaeologists would reject such a concept. These cultures do share broadly similar ceramic inventories and in the central and eastern Balkans they follow either the collapse of the long-term Neolithic tell settlements or occupy the tells themselves but after a cultural break.

The Baden culture is known from at least a thousand sites that vary in size and location. Northern settlements tend to be larger and more stable while those in Bosnia and Croatia often give the appearance of small camp sites. Fortified settlements are also known, particularly where Baden bordered on a different culture. One of the most famous of the defensive sites is the hill-top settlement of Vučedol in Croatia where two houses were surrounded by a wooden palisade and, where exposed, a ditch. The presence here of an apsidal house, i.e., a house where one end terminates in a rounded or apse-like construction, has also been regarded as an important ethnic marker as similar houses appear in western Anatolia and Greece where they have been used to trace the movements of IE-speaking populations (but apsidal houses are found so widely in Europe since the Neolithic that any simple correlation between house form and IE language is dubious at best). The economy was mixed; agriculture is well attested including the raising of wheat, barley, millet, oats, pulses and the gathering of wild fruits and nuts. Livestock included cattle, pig, and especially sheep/goat which appears to have increased in importance and has been attributed to the introduction of new stocks from the east. The Baden culture also exhibits some of the earliest evidence for wheeled vehicles in central Europe as two clay cart models/drinking vessels were discovered at cemeteries at Budakalász and Szigetszentmárton, both near Budapest.



Baden a. Distribution of the Baden culture.



Baden b. Vučedol settlement (Baden period); c. Baden single-handled cup; d. Baden dish; e. Anthropomorphic figures; f. Bronze dagger.

The ceramics include a variety of presumably ritual vessels, including large anthropomorphic "urns" as well as many varieties of handled drinking cups which have been associated with new fashions presumably involving the consumption of some alcoholic beverage. Burial was by both inhumation and cremation, the former predominating. Where the settlements are largest, the cemeteries tend to be smaller while areas in the south such as Hungary have boasted larger cemeteries such as Budakalász with about three hundred burials. One grave yielded two oxen which have been interpreted as evidence for paired draft.

The Baden culture is frequently discussed in association with the spread of Indo-Europeans because it possesses a number of cultural traits that have been regarded as diagnostic markers of IE society: the (occasional) use of small fortified settlements, houses with apsidal ends (suggesting a pastoral ancestry), wheeled vehicles, clay vessels suggesting both drinking sets and containers whose use has been associated with the consumption of dairy products or alcoholic beverages, sexual dimorphism in burial rite with males interred on their right sides and females on their left, and cult vessels displaying solar symbols. Within the Kurgan model of IE origins, the Baden culture is seen to serve as a vehicle for its expansion and consolidation in the central Balkans while those supporting a central European homeland seek the genetic roots of the Baden culture in the earlier TRB and Linear Ware cultures. The bearers of the Baden culture have been variously identified with speakers of languages ancestral to the Celtic, Italic, Illyrian and Venetic languages.

See also Cernavoda Culture; Coţofeni Culture; Ezero Culture; Kurgan Tradition; Troy. [J.P.M.]

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BADGER

meli- 'badger (*Meles meles*)'. [Blažek 15–17]. Lat *mēlēs* 'badger, marten', Slov (dialectal) *məlc* (< Proto-Slavic **melici-*) 'badger'. Though only weakly attested in Slavic, this apparent Latin-Slavic isogloss suggests that this may have been at least a dialectal word for 'badger' (or some other mustelid) in late PIE. The badger was widely hunted in antiquity and its natural distribution extends from the Atlantic to the Pacific, including all those regions that have been suggested as IE homelands. Given the size of the badger (averaging about ten kilograms in weight) and its distinctive markings, it is nearly impossible to imagine that the PIE speech community did not have a word (or words) for this animal.

See also MAMMALS; MARTEN; WEASEL. [D.Q.A., J.P.M.]

Further Reading

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BAG

bhólĝhis '(skin) bag; bolster (made from stuffed animal skin)'. [*IEW* 125–126 (**bhelĝh-*); Wat 7 (**bhelgh-*); BK 10 (**bul-/*bol-*)]. OIr *bolg* 'sack', Wels *bol* 'stomach', Gaul *bulga* 'leather sack', ON *belgr* 'flayed animal skin, bag; belly', OE *bel(i)g* 'bag' (> NE *belly*), OHG *balg* 'skin', Goth *balgs* 'bag made of skin', OPrus *po-balso* 'bolster', *balsinis* 'pillow', Latv *pabàlsts* 'pillow', Slov *blazína* 'feather-bed', SC *blàzina* 'pillow, bolster', Av *barəziš* 'bolster, cushion', Shughni *vīγ̌j* (< Proto-Iranian **br̥zī-*) 'pillow', OInd *upa-bárhanī* 'cover, bolster' and perhaps *barhíṣ-* '(sacrificial) straw, bed of grass'. Distribution assures PIE status. From **bhelĝh-* 'swell'.

??*ku̯elh_xk- 'bolster, ball?' [*IEW* 630 (**ku̯elək-*)]. Lat *culcita* 'cushion', OInd *kūrcá-* 'bundle'. Neither the semantic connection nor the phonological (Lat **qualcita* would be the expected form) is compelling.

See also BASKET. [D.Q.A.]

BALD

***k̥l̥h_xu̯os** 'bald'. [*IEW* 554 (**k$_e$ləu̯o-*); Buck 4.93]. Lat *calvus* 'bald', Av *kaurva-* 'bald', OInd *áti-kūrva-* 'bald'. Cf. the next word.

***gol(h_x)u̯os** 'bare, bald'. [*IEW* 349 (**galu̯o-s*); Wat 18 (**gal-*); Buck 4.93; BK 310 (**k^{y}al^y-*)]. OE *calu* 'bald, bare, callow' (> NE *callow*), OHG *kalo* 'bald', OCS *golŭ* 'naked', Rus *gólyj* 'bare'. Cf. the Balto-Slavic words for 'head' (**g(h)olh_xu̯-éh_a-* 'bald-pate'): Lith *galvà*, Latv *gal̂va*, OCS *glava*, Rus *golová*. Probably here also belongs Arm *glux* (< **ghōlh_xu-ko-* or **gh$_x$ōlu-ko-*?) 'head'. It seems best to start from an earlier PIE **kolu-* ~ **k̥l̥u̯-* 'bald'. In a central area of the IE world the initial consonant was voiced (and further aspirated?), perhaps the result of its expressive meaning.

***ne/og^{w}nós** 'bare, naked'. [*IEW* 769 (**nog^u-*); Wat 45 (**nog^w-*); GI 144 (**nog^{ho}-*); Buck 4.99]. ON *nakinn* (rebuilt on the analogy of a participle from **nakn*) 'naked', Grk *γυμνός* (< **gomnó-* < **nog^{w}nó-*) 'naked', Hit *nekumant-* (< **nekunant-*) 'naked', Av *mayna-* 'naked', OInd *nagná-* 'naked'. With somewhat different formations we have: OIr *nocht* 'naked', Lat *nūdus* (< **nog^{w}edho-*) 'naked', OE *nacod* 'naked, bare' (> NE *naked*), OHG *nachot* 'naked', Lith *núogas* 'naked', OCS *nagŭ* 'naked', OInd *nāgá-* 'elephant' (< *'hairless one'). The underlying word is well-attested throughout the IE world and obviously old. Perhaps because of its expressive meaning it was subject to a good deal of morphological and occasionally phonological reshaping.

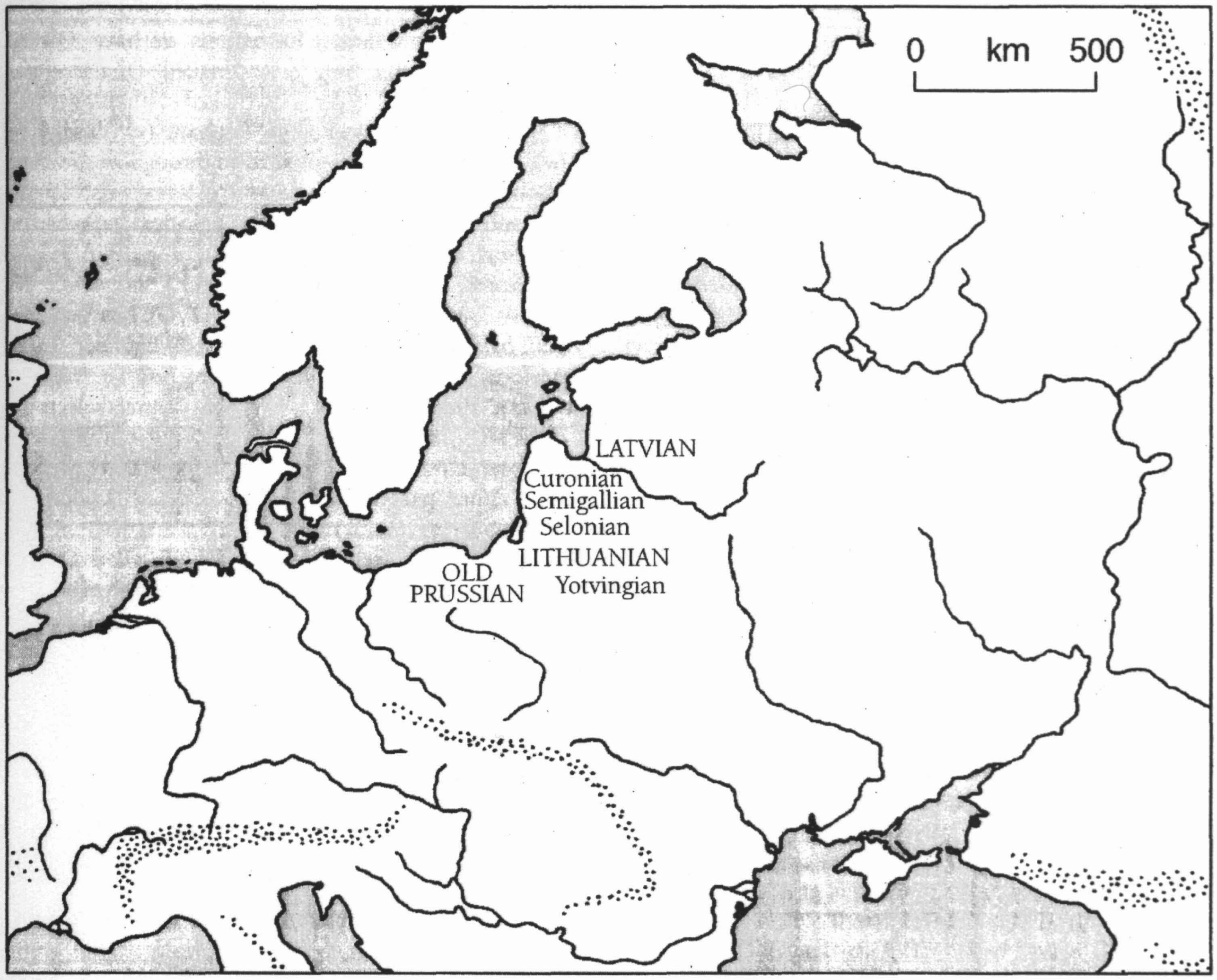
bhosós 'bare, naked'. [*IEW* 163 (**bhoso-s*); Wat 9 (**bhoso-*); Buck 4.99]. ON *berr* 'naked', OE *bær* 'bare, naked' (> NE *bare*); OHG *bar* 'naked', Lith *bãsas* 'barefoot', Latv *bass* 'barefoot', OCS *bosŭ* 'barefoot', Arm *bok* (< **bhos-ko-*?) 'barefoot'. Probably restricted to certain central dialects in PIE.

The sense of 'without hair' and 'without clothing' seem to have been close in PIE. **ne/og^{w}nós* apparently could have meant either 'naked' or 'without body-hair'. Lack of body-hair was a pre-eminent mark of immaturity. A similar association is to be seen with OE *calu* > NE *callow*. Conversely the presence of body hair was an important sign of adulthood.

The concept of the naked warrior is found in the evidence of IE tradition: according to Diodorus Siculus an élite among (Continental) Celtic warriors went into battle naked, *γυμνός* (*Bibl.* 5.28); this seems to be an expression of an assumed *animal* character and force, and the same warriors styled their hair so that it resembled a horse's mane. St. Gildas commented on the "shameless" fighters among the Scots and Picts (*De excidio Britanniae*, cap. 1), and the image of the champion fighting naked "before the host" is also suggested in the Welsh sources, specifically in the three champions, "diademed" or "gorgeted" men featured in the Welsh *Triads* (*Trioedd Ynys Prydein* T. 21, p. 37).

Baldness, or a lack of head-hair, carries some ambiguous charges: as a sign of approaching old age it seems to show that male virility (held in, or symbolized in the hair) was retreating. Early balding might especially be regarded as a kind of personal affliction: an Irish source cites "baldness, weakness, early grayness" as kinds of supernatural punishment (*Metrical Dinshenchas* 3.1-25) and attempts to reverse or "cure" baldness were well known. Curatives for baldness using vegetable substances may have been conscious of the hair:grass homology, but animal substances, such as fats, were used as well: animals, in this way of thinking, do not grow bald.

To show the mixing of images OIr *mael* provides the ordinary meaning 'bald' but can also mean 'shorn' or 'crop-haired', and so *mael* can indicate servile status or mark the pre-adolescent male (the *gilla*) or be used of a shorn or tonsored druid, a high-status figure of the First Function. The great Finn mac Cumaill spent some time in his youth as Demne Mael, Bald Demne, but Finn had some druidic, as well as superlative Second Function, warriorly skills. His "bald" state also shows a case of a price being paid for a particular skill or talent gained. The Greeks of Homer's epic invention have their semi-comic target in Thersītēs (*Iliad* 11.212ff.), who also combines a low-class appearance (as he



Baltic I Distribution of the Baltic languages.

makes a contrast with the 'thin growth' of his misshapen head to the abundant hair of the Achaian warrior-lords) but Thersītēs too has his concealed connection to the satirist (in the Old Irish context) and others who have certain powers related in all likelihood to the Trickster figure, but not completely detached from magical (and First Function) potencies.

See also HAIR; TRICKSTER. [D.Q.A., D.A.M.]

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BALTIC LANGUAGES

The Baltic branch of Indo-European is itself divided into two sub-branches: West Baltic whose only attested language is the extinct Old Prussian, and East Baltic attested in Lithuanian and Latvian (the latter also known as Lettish). Though first attested only in the early fifteenth century in the form of the earliest Old Prussian text, Baltic as a whole, and Lithuanian in particular, is a remarkably conservative branch of Indo-European and so plays a greater role in the reconstruction of Proto-Indo-European than the lateness of its attestation might suggest.

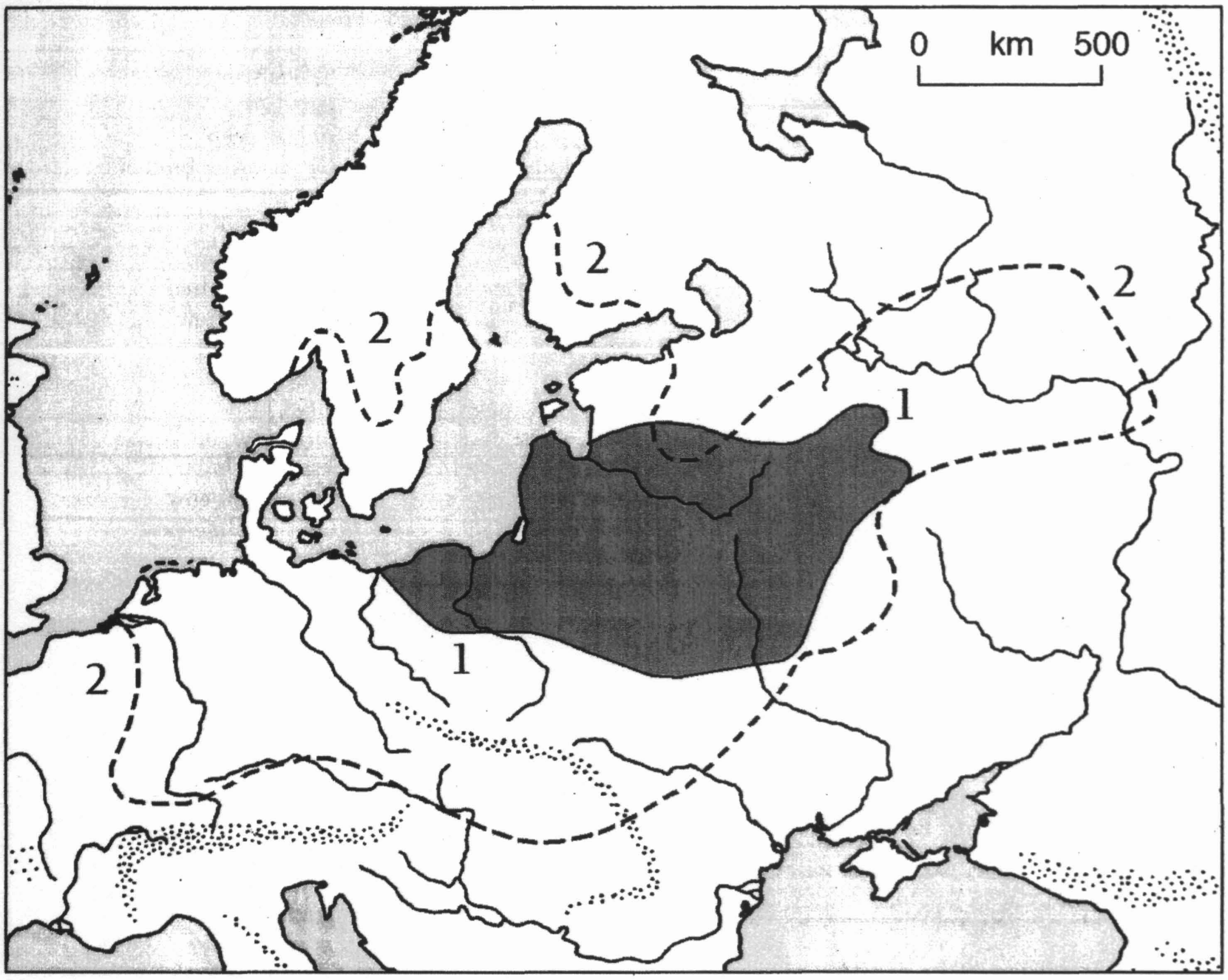
Old Prussian is the name conventionally given to speakers of a West Baltic language spoken in the former East Prussia. They are first mentioned in history, under the name of Aistians (and thus at least possibly confused with the non-Indo-European Estonians) by Tacitus in the first century AD. By the ninth century Prussian, or some similar name, had become the usual designation for this ethnic group. The Yotvingians (or Jatvingians) to the east of historic East Prussia are presumed to have spoken a closely related language but there are no certain records of it. Prussia was conquered by the Teutonic knights in the thirteenth century and christianized. At the time of the Reformation the then Grand Commander of the order accepted the teachings of Martin Luther and secularized the order, making it into the Duchy of Prussia. Most of the rather meager linguistic remains of the Old Prussian language reflect the activities of German-speaking Lutheran pastors who translated religious literature in Old Prussian. Thus none of

Proto-Indo-European and Baltic Phonological Correspondences

PIE		Lithuanian	PIE	Lithuanian
*p	>	p	*pótis 'master'	pàts 'self'
*b	>	b	*dubús 'deep'	dubùs 'deep'
*bh	>	b	*bhréh$_a$tēr 'brother'	OPrus brote 'brother'
*t	>	t	*túh$_x$ 'thou'	tù 'thou'
*d	>	d	*dei̯uós 'god'	dievas 'god'
*dh	>	d	*dhuh$_2$mós 'smoke'	dúmai 'smoke'
*k̂	>	š	*k̂m̥tóm 'hundred'	šimtas 'hundred'
*ĝ	>	ž	*ĝn̥neh$_a$- 'know'	žinóti 'to know'
*ĝh	>	ž	*ĝheimeh$_a$- 'winter'	žiemà 'winter'
*k	>	k	*kor- 'war'	kãras 'war'
*g	>	g	*h$_a$eug- 'grow, increase'	áugu 'grow'
*gh	>	g	*h$_3$mighleh$_a$- 'mist'	miglà 'fog, mist'
*k^w	>	k	*k^{w}ós 'who'	kàs 'who, what'
*g^w	>	g	*g^{w}ou- 'cow'	Latv gùovs 'cow'
*g^{w}h	>	g	*g^{w}hormós 'heat'	OPrus gorme 'heat'
*s	>	s	*h$_a$eus- 'ear'	ausìs 'ear'
*i̯	>	j	*i̯uh$_x$s- 'broth'	jūšė 'fish-soup'
*u̯	>	v	*u̯l̥k^{w}os 'wolf'	vilkas 'wolf'
*m	>	m	*méh$_a$tēr 'mother'	mótė 'mother'
*n	>	n	*h$_x$nas- 'nose'	nósis 'nose'
*l	>	l	*lók̂sis 'salmon (trout)'	lãšis 'salmon'
*r	>	r	*h$_1$rudh- 'red'	rùdas 'red(brown)'
*m̥	>	im	*k̂m̥tóm 'hundred'	šimtas 'hundred'
*n̥	>	in	*g^{w}hn̥- 'strike'	ginti 'to chase'
*l̥	>	il	*u̯l̥k^{w}os 'wolf'	vilkas 'wolf'
*r̥	>	ir	*mr̥- 'die'	mirti 'to die'
*i	>	i	*lik^w- 'remain'	likti 'to remain'
*ī	>	y	*g^{w}ih$_3$u̯ós 'living'	gývas 'living'
*e	>	e	*médhu 'honey'	medùs 'honey'
*ē	>	ė	*seh$_1$- 'sow'	sė́ti 'to sow'
*a	>	a	*h$_a$ék̂s- 'axle'	ašis 'axle'
*ā	>	o	*méh$_a$tēr 'mother'	mótė 'mother'
*o	>	a	*lók̂sis 'salmon (trout)'	lãšis 'salmon'
*ō	>	uo	*doh$_3$- 'give'	dúoti 'to give'
*u	>	u	*k̂unós 'dog's'	šuñs 'dog's'
*ū	>	ū	*bhuh$_x$- 'be'	bū́ti 'to be'
*h$_1$	>	ø	*h$_1$ésti 'is'	esti 'is/are'
*h$_2$	>	ø	*h$_2$erh$_3$- 'plow'	árti 'to plow'
*h$_3$	>	ø	*h$_3$ók^w 'eye'	akìs 'eye, round hole'
*h$_4$	>	ø	*h$_4$órĝhis 'testicle'	ar̃žilas 'stallion'

the few documents written in Old Prussian are written by a native speaker and, indeed, there is no assurance that the writers' command of Old Prussian was altogether fluent. Still there is enough data to make it clear that Old Prussian does differ in certain significant ways from Lithuanian and Latvian, e.g., OPrus *dadan* 'milk' but Lith *píenas*, OPrus *aglo* 'rain' but Lith *lietùs* or OPrus *camstian* 'sheep' but Lith *avìs*. By the eighteenth century speakers of Old Prussian were linguistically assimilated to German or Lithuanian.

East Baltic is represented by Lithuanian and Latvian. Other East Baltic groups are recorded in early historical times, e.g., Selonian, Semigallian, Curonian, but all have been linguistically assimilated to Latvian and/or Lithuanian (if, indeed, they were very different from Lithuanian or Latvian to begin with). Latvian at least has also assimilated speakers of Livonian, a variety of Baltic Finnish similar to Estonian, and some of the development Latvian has undergone has been attributed by some to substrate influence of Livonian. As is the case with Old Prussian, the oldest literature in both East Baltic languages consists of religious translations. Lithuanian is attested from



Baltic II Baltic origins. Shaded area (1) indicates distribution of Baltic river names. Area indicated by broken line (2) indicates generalized distribution of the Corded Ware culture which many argue would have been the ancestor of the Germanic and Slavic stocks as well as Baltic.

the beginning of the sixteenth century and Latvian from the last quarter of the same century.

In phonology Baltic shows clear connections with other IE groups both to the east and west, but particularly with Slavic. Both Baltic and Slavic are satəm languages (along with Indo-Iranian and Armenian) which means that PIE **k* and **k*^{w} appear as Proto-Baltic and Proto-Slavic **k* and PIE **k̂* appears as **š* (in all Baltic and Slavic languages except Lithuanian **š* subsequently becomes *s*). However, both groups, but particularly Baltic, show exceptions (e.g., Lith *pẽkus* 'cattle', OPrus *pecku* 'cattle' from PIE **pék̂u*) which suggest that Baltic and Slavic were on the periphery of that part of Proto-Indo-European that underwent satəmization. Both Baltic and Slavic also show the effects of the *ruki*-rule whereby a PIE **-s-* is retracted to **-š-* after **r*, **u*, **k*, or **i*, an unexpected phonological development that is shared otherwise only with Indo-Iranian. With Slavic and Germanic Baltic shares dative and instrumental case endings in **-m-*, rather than in **-bh-* as in all other IE languages that retain these cases, e.g., Goth *wulfam*, Lith *vilkàms*, OCS *vŭlkomŭ* but OInd *vṛkebhyaḥ* 'to the wolves').

East Baltic is generally a very conservative branch of Indo-European and Lithuanian in particular preserves an "archaic" aspect otherwise found in IE languages at least a couple of millennia older. Particularly the declension of the nouns and adjectives, with seven cases, singular and plural (and at least in dialects the dual as well) persists as a remarkably faithful witness to the situation in Proto-Indo-European. Only Old Indic attests a system that is less changed from what is usually reconstructed for Proto-Indo-European. With regard to the verbal system Lithuanian, and all of Baltic, has been much more innovative. The PIE present tense is well-preserved and the future reflects a PIE desiderative formation (i.e., 'want to') revalued as a simple future. Both the PIE aorist and imperfect have contributed to the simple past tense. But most of the PIE aorist and imperfect formations have disappeared, along with the entire perfect and middle. Very characteristic of Baltic is the fact that the original third person singular does

duty for the dual and plural as well, thus *estì*, the descendant of PIE *$^*h_1$ésti* 'is' is used for all numbers.

The relationship with Slavic is particularly close. There are numerous Balto-Slavic lexical innovations, e.g., Lith *rankà* 'hand', OCS *rǫka* 'hand', and a number of common innovations in phonology, e.g., in the systems of intonations inherited from Proto-Indo-European, and morphology, e.g., the creation of a distinction between definite and indefinite adjectives. The development of the latter distinction is particularly interesting from the point of view of comparing it with the same development in neighboring IE stocks. In Baltic and Slavic the definite adjectives result from the fusion of the basic adjective with a following demonstrative pronoun, **i̯os* (a form which in other IE languages functions exclusively as a relative pronoun), e.g., 'which (is) X' (Lith *bãsasis* '(the) barefooted', OCS *bosŭjĭ* '(the) barefooted' < **bhosos i̯os*). While the ancestral syntactic unit is shared by Baltic and Slavic, the process by which the old demonstrative pronoun became a morphological suffix occurred independently in both groups, witnessed by the fact that word-final **-s* had already been lost in Slavic when the morphologization occurred. A similar definite adjective is seen in Albanian, though there the old demonstrative (or relative?) pronoun precedes the adjective and is still a separate word (e.g., *i ri* '(the) young'). In neighboring Germanic a distinction between definite and indefinite adjectives was built by using purely morphological material, each adjective comes in two shapes, "regular" and in the form of an *n*-stem derivative. The latter is the definite one of the pair. (A similar distinction may once have existed in Tocharian.) We see a regional development of explicit definiteness within late Proto-Indo-European, but only Baltic and Slavic show identical manifestations of that definiteness.

Baltic Origins

The origin of the Balts has often been regarded as diagnostic for locating the earliest Indo-Europeans. The conservatism of Baltic, in particular Lithuanian, has been explained by some as due to the fact that of all the IE stocks, the Balts have moved least from their homeland and, consequently, mixed least with foreign substrates who would have stimulated language change. On such reasoning one popular theory of IE origins of the late nineteenth and early twentieth century set the homeland of all Indo-Europeans in the Baltic region.

Although textual evidence for the Balts is extremely late, the evidence of river names provides us with a considerably greater antiquity in mapping out the distribution of the early Balts. It indicates that they once occupied a territory many times the size that of the historically attested lands (excepting the creation of an enormous Lithuanian empire during the Middle Ages that embraced much of European Russia and employed Belorussian as a chancery language). Baltic river names are found from west of the Vistula and east at least as far as Moscow and almost as far south as Kiev on the Dnieper. The contraction of their territory owes much to the rapid expansion of the Slavs from the south and east from the fifth century AD onwards and the later conquest of Baltic lands by the German Knights of the Teutonic Order coming from the west. The evidence of Ptolemy in the second century AD of names (Soudinoi and Galindai) clearly ancestral to those of the later Prussian tribes makes it likely that Balts have occupied at least their western territory since the beginning of the Christian era. To locate the Balts any earlier on the basis of written sources requires some guesswork. For example, in the fifth century BC Herodotus records the existence of the Neuroí who occupied snake-infested lands north of what may be the Pripet marshes and these Neuroí have been identified by some as Balts; the Lithuanians, for example, were known for the cult of the green snake (but the geographical position of the Neuroí is controversial and others would argue that they might more easily be assigned to the early Slavs). At this time the Pripet region was occupied by the Milograd culture and one can then argue a long sense of cultural continuity in the Baltic region back at least to the earliest appearance of the Corded Ware horizon in the late fourth and early third millennia BC. This is the earliest culture that occupies the entire Baltic region, here in the guise of the local variant known as the Haffküstenkultur, whose general cultural inventory is at least potentially Indo-European, e.g., it was in possession of wheeled vehicles, domestic horse.

Any attempt to trace the IE ancestors of the Balts to a still earlier period runs into serious problems. The Neolithic (fourth millennium BC) TRB culture of the north European plain may also accord with many of the expectations derived from the reconstructed cultural lexicon of the IE languages, but its distribution only extended to east Prussia and cannot be seen to underlie the distribution of the East Balts. Rather, there appears to have been a slow acculturation of local hunter-gatherer populations who slowly incorporated agriculture and stockbreeding into their economy from their TRB and later Globular Amphora neighbors. The archaeological result of this process is the middle Neolithic Narva culture which appears to have persisted into the Bronze Age in some areas. There is considerable disparity between west and east Lithuania with respect to the reliance on domestic animals throughout both the middle (Narva) and late Neolithic (Corded Ware) and it was only about 2000 BC that stockbreeding begins to become important in the east. The spread of the Corded Ware horizon in the Baltic region is not particularly impressive in quantity, e.g., Latvia boasts no more than about forty known Corded Ware burials. Baltic also contributes to a set of cognates for fortified settlement (Lith *pilìs* 'fort', castle', Latv *pils* 'fort, castle' < *$^*pelh_x$-*) and it is only in the early Bronze Age (*c* 2000–1100 BC) that Baltic hillfort settlements begin to appear. Irrespective of where one wishes to locate the IE homeland, it is unlikely that we can speak of the full Indo-Europeanization of the Baltic region until 2000 BC although IE-speakers may well have begun to enter the east Baltic a millennium earlier. The geo-chronological position of Baltic also illustrates why the concept of assigning the IE homeland to the Baltic region is rather

implausible, i.e., it requires IE expansions from an area that itself could only have become IE-speaking when we already begin to find differentiated IE stocks such as Anatolian or can confidently presume their existence such as Indo-Iranian.

As the distribution of the Corded Ware horizon covers the entire north European plain and beyond, it is unlikely that it describes the specific distribution of the earliest Balts but rather their more distant linguistic ancestors who would also evolve into their Germanic and Slavic (and possibly other) neighbors. The emergence of a distinctly Baltic language stock depends largely on what date one assigns to such a phenomenon and other than confining the Proto-Balts to the last two millennia BC, nothing else certain can be established. For those who believe that archaeological phenomena can reflect linguistic developments, it has been argued by Lothar Kilian that the first major cultural differences in the Baltic territory emerge only about 1000 BC when the West Baltic area engages in cremation burial while the East Baltic region continues the inhumation mode of burial. Since the West Baltic territory subsequently appears to divide into three regional units corresponding with the historically attested Prussian tribes, this may suggest some correlation between the archaeological and the linguistic data. Certainly the emergence of Proto-Balts in the period between 2000 and 1000 BC is unlikely to meet with many objections.

See also CORDED WARE CULTURE; INDO-EUROPEAN LANGUAGES; TIME-DEPTH; TRB CULTURE. [D.Q.A., J.P.M.]

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BARE *see* BALD

BARK[1]

lóubho/eh$_a$- 'bast, bark'. [*IEW* 690; cf. Wat 37 (**leup-*)]. Lith *lúobas* 'rind, bark', Latv *luobs* 'shell, rind', Rus *lub* 'bast, bark', Alb *labë* 'rind, bark, crust'. As such it is a word of the center of the IE world but other derivatives also occur: MIr *luchtar* 'boat made from bark', Lat *liber* (< **lubhrós*) 'bast; book' (since bast, especially beech bast, provided an early writing medium), OHG *louft* 'bark, bast'. Also probably belonging here are the Baltic words for 'board': OPrus *lubbo* 'board', Lith *lubà* 'board', (pl.) *lùbos* 'ceiling'. Although sometimes set here but probably not related are: OIr *luib* 'herb', OWels *luird* 'garden', and the Germanic words for 'leaf': OE *lēaf* 'leaf' (> NE *leaf*), OHG *loub* 'leaf', Goth *laufs* 'leaf'.

Words for 'bark', specifically inner bark, are sometimes the same as or the source for the words for 'book' because inner bark or bast (the soft elastic, sap-conducting layer) was used by many peoples, including at least some of the early Indo-Europeans, for writing. Thus, Lat *liber* 'bark, bast', which was used for writing before the advent of papyrus, eventually yielded the meaning 'book, letter' (cf. the etymologically unconnected Grk *βύβλος* ~ *βίβλος* which earlier meant the inner bark of the papyrus, hence the paper, used for writing). NE *book* ultimately comes from 'beech' (OE *bōc*) since in the Germanic area beechwood was used for writing. In the Slavic area, Old Russian *lubŭ*, for example, denoted both 'bast' and 'material for writing'. Given these almost ubiquitous connections, one can posit a more specific, late IE meaning of 'bast' and a culturally critical meaning of 'material for writing on'.

The many Slavic cognates such as SC *lúbura* and Rus *lubók* often denote boxes made of bast, specifically elm and linden bast, an essential ingredient of the peasant home into modern times. Possible metaphorical extensions of this were words for skull and forehead (Rus *lob* 'forehead'). Slavic and Baltic reflexes of **leubh-* often denote 'board, shingle' and the like whereas Germanic reflexes, if they belong here, tend to denote 'leaf, foliage' and in Celtic we have MIr *luchtar* 'boat made of bark'. In sum, a large set of central dialectal cognates point to either an original generic meaning of the exterior of a tree: 'leaf, inner bark', etc., or, which is perhaps more likely, 'bark' or 'wood', and, eventually, the diverse objects made of such materials. A tantalizing hypothesis would derive the word for 'bark' from a verbal root 'peel, strip', e.g., Slavic *lupiti* 'strip' as a source for *lub* 'bast'; however, the reconstructed verb ends in a non-aspirated *p* and hence cannot, by the conventional rules, be a source of **leubh-*. On universal semantic grounds also it is relatively unlikely that an item as basic in the lexicon as 'bark' would be derived from a rather specialized verb.

See also PLANTS; TREES. [P.F.]

BARK[2]

leh$_a$- 'bark' (pres. ***léh$_a$-i̯e/o-***). [*IEW* 650 (**lā-* ~ **lē-*); Buck 18.14]. Lat *lātrō* (a denominative based on an unattested **lā-tro-* 'barking') 'bark (at); rant, roar', Lith *lóju* 'bark', Latv *lāju* 'bark', OCS *lajǫ* 'bark', Alb *leh* (< **loh$_a$-sk̂e-*) 'bark', Oss *ræjun* 'bark', OInd *rā́yati* 'barks'. Widespread and old in IE; not obviously onomatopoeic but rather inherited by regular phonological processes from the parent language. Cf. possibly Grk *ὑλάω* 'bark' though this word cannot be a phonetically

regular reflex and fits better with **ul-*. Compare also **leh$_a$-* 'cry out, complain' which may be related.

****bhels-*** 'yelp, howl'. [*IEW* 123 (**bhel-*)]. ON *belja* 'roar, howl', OE *bellan* 'roar, howl', OHG *bellan* 'bark', OInd *bhāṣá-* 'barking, yelping', *bhaṣati* 'barks, yelps'. Not obviously onomatopoeic and if the Germanic and Old Indic words belong together, we have good evidence for a PIE word.

?*baub- 'bark, low'. [*IEW* 95 (**bau*)]. Lat *baubor* 'bark', Lith *baũbti* 'low of cows', Grk *βαΰζω* 'bark'. An onomatopoeic formation, quite possibly independent in each of the three stocks, based on the sound of a dog barking (Grk *βαύ βαύ*) or cows lowing.

?*bhereg- '± bark, growl'. [*IEW* 138 (**bhereg-*); Wat 8 (**bherg-*); Buck 18.14; BK 33 (**bar-/*bər-*)]. ON *berkja* 'bark', OE *beorcan* 'bark' (> NE *bark*), Lith *burgėti* 'spurt, splash, splutter, growl'. The difference in meaning between Baltic and Germanic strongly suggests that we have independent onomatopoeic formations in the two stocks. At best we have a late IE dialectalism reflected here.

The fact that the first two verb roots, neither of them obviously onomatopoeic, can be reconstructed for the barking of dogs may suggest the long-standing association of dogs and people, an association long antedating the PIE period, and the relative importance that association had for PIE society. It might be noted that barking is an acquired trait, bred into dogs through domestication, and it is not one of the behavioral patterns of the wolf from which the dog was first domesticated. It might be argued then that the first term, **leh$_a$-*, is "semantically" in full accord with both the noise made by a domesticated dog and also an expression of some of the primary reasons for its domestication, to serve as a watch dog and assist in the hunt. The second term, **bhels-*, may lack the informational content of the first.

See also Animal Cry; Bird Cry; Dog; Howl; Moan.
[D.Q.A.]

BARLEY

****ĝhrésdh(i)*** (gen. ****ĝhr̥sdhós***) 'barley (*Hordeum vulgare* and/or *H. distichum*)'. [*IEW* 446 (**ĝherzd(h)*); Wat 22 (**ghr̥zd-*); GI 565 (**ĝ^h(e)rd^h-*); Buck 8.44]. Lat *hordeum* (< **ĝhr̥sdheịom*) 'barley', OHG *gersta* (< **ĝhérsdheh$_a$-* with new full-grade) 'barley', Alb *drithë* (< **ĝhr̥sdhi*) 'cereal grain', Grk (Homeric sg.) *κρῖ ~ κριθή* (< pre-Grk **ghrisdh* with **-e-* > *-i-* as in *ἵππος* 'horse') 'barley'. Cf. the derivative OCS *grozdŭ* (< **ĝhrosdho-*) 'grapes' (< 'fruit' < 'kernel'). Another possible cognate is Hit *karas* (=/kras/, /kars/?) a kind of wheat. If the Hittite word is accepted it may represent either **ĝhérsdh* or **ĝhórsdh*. Widespread and with no certain root connections (though it has often been connected to **ĝhers-* 'stiffen, bristle' as the 'awned' grain or the like), this is clearly the oldest IE word that specifically refers to 'barley'.

****h$_2$élbhit*** 'barley'. [*IEW* 29 (**albhi-*); cf. Wat 2 (**albho-*); GI 565; BK 457 (**hal-/*həl-*)]. Alb *elb* 'barley', Grk *ἄλφι* (pl. *ἄλφιτα*) 'barleymeal'. A somewhat different formation is seen in Khot *rrusā-* 'barley', Pashto *ōrbaše* (pl.) 'barley', Wakhi *arbəsi* 'barley' (< Proto-Iranian **arbusa-*). Probably a derivative of a word for 'white'. Cf. Homeric *κρῖ λευκόν* or *ἄλφιτα λευκά* and the set of designations in Germanic for 'wheat' (e.g., ON *hveiti*, OE *hwǣte* (> NE *wheat*), OHG *weizzi*, Goth *ƕaiteis*) that all derive from the word for 'white'. The same suffix occurs in Hit *seppit* 'wheat'. However, the word for 'white' would appear to be **h$_4$elbhós* with a different laryngeal. A word of the center and east.

****bhárs*** (gen. ****bharés(o)s***?) 'barley'. [*IEW* 111 (**bhares-*); Wat 5–6 (**bhares-*); GI 770 (**b^{h}ar(s)-*); Buck 8.44; BK 24 (**bar-/*bər-*)]. Lat *fār* (gen. *farris*) 'grain; coarse meal; (coarse) bread', *farīna* 'flour, meal', Umb *far* 'flour, meal', ON *barr* 'grain, barley', OE *bere* 'barley' (underlies OE *bær-lic* > NE *barley*), Goth *barizeins* 'barley-', OCS *brašīno* 'nourishment', Rus *bórošno* 'ryemeal', SC *brȁšno* 'meal, flour'. Just possibly to be added here are Grk (Hesychius) *φῆρον* an ancient plant deity, or *Περσεφόνη*, if from **Phersephonē* and if originally *'± grain-slayer'. Variants without **-s-*, i.e., OIr *bairgen* 'bread, loaf', Wels *bara* 'bread' (Celtic < **barageno/ā-*), Rus *bor* 'millet' are also known. They may or may not belong here. This word is found in the west and center of the IE world and is often taken to be a borrowing. Two candidates have presented themselves. GI compare the word with Proto-Semitic **burr-/*barr-* 'grain, threshed grain' (cf. Hebrew *bar* 'threshed grain') but the distribution of cognates within IE does not support direct connections with the Near East. Alternatively, others have derived the word from some substratum language of central or western Europe. It may be, but, if so, it is a very old borrowing, taken across at a time when the various IE dialects were not very much differentiated. Arguing against the borrowing hypothesis is the morphological shape that this word apparently had in late IE, a morphological type that must have been very recessive. That it should have attracted a borrowed word seems unlikely.

****meiĝ(h)-*** 'barley' ('grain'?). [Bailey 332–333]. OIr *mīach* 'measure (of grain), bushel', OPrus *moasis ~ mayse* 'barley', Lith (pl.) *miẽžiai* 'barley', Latv (pl.) *mieži* 'barley', *màize* 'bread', Khot *māṣṣa-* (< **miĝ-so-*) 'field'. If all these words belong together, we have evidence for another widespread and presumably old word, perhaps meaning 'barley', perhaps something more general such as 'grain'.

There are a variety of terms for barley that show a number of overlaps among the IE stocks. The reasons for this may have been motivated by any number of factors. For example, the specific uses of the cereal (whether consumed by people or animals), its movement from one social class to another or its role in poetic diction. One of the more obvious factors may have been the different types of barley being exploited. The two main types of barley were *Hordeum distichum* (two-rowed barley) and *Hordeum hexastichum* (six-rowed barley) whose physical difference would have been obvious to a prehistoric farmer. In addition, barley may be hulled, i.e., of a type where the pales adhere to the grain after threshing which would render the cereal more suitable for animal than human consumption. Alternatively, barley may have been

naked, i.e., the hulls would have fallen away at threshing, thus providing a cereal more easily processed and consumed by humans. All of these types of barley are so widely dispersed over Eurasia that they would all have been known to prehistoric groups of IE-speakers. What is perhaps most striking is that the varieties of wheats are even still greater yet we lack a similar large set of 'wheat' terms.

Because of a lack of gluten, a porous loaf cannot be made from barley; however, a flatbread may. Barley is also consumed in the form of porridge or, when malted, in the form of beer. Although the range of wild barley probably extended into the southeast Balkans, it is unlikely to have extended much beyond those territories immediately adjacent to Turkey and its area of domestication is generally sought in southwest Asia where the earliest domestic barley is set to c 9000 BC. From there it was presumably carried along with a variety of wheats into Europe by the earliest farmers in the seventh millennium BC (unless domesticated locally in adjacent areas of the Balkans) where it eventually reached northwest Europe by c 4000 BC. It also appears in the region northwest of the Black Sea, in the Bug-Dniester culture and in the Linear Ware and Tripolye cultures from the sixth millennium BC onwards. Here also a route from Turkey through the Balkans and then eastwards is commonly sought although it may also have penetrated north of the Black Sea by way of the Caucasus where it appears by the sixth/fifth millennia BC. It is also known in the Sredny Stog culture of the Dnieper region and perhaps in southern Siberia by the fourth/third millennia BC.

Barley is hardier than wheat and it eventually supplanted the latter in a variety of regions where resistance to climatic extremes favored the former, especially in northern Europe, where barley gradually replaced wheat in some regions as early as the later Neolithic or later during the climatic deterioration of the later Bronze Age. Certainly the relatively large number of IE words designating 'barley' and the fact that a word meaning 'grain' can also be used more specifically for 'barley' strongly suggests that barley was an important grain of early IE speakers although no cognate terms are known in the easternmost stocks, Indic and Tocharian. It should be noted that barley was hardly unknown in either Iran or India. It appears in Iran by 7000 BC and by c 6000 BC domestic barley is known from Mehrgarh in Baluchistan and later in the Harappan culture.

Where barley and wheat co-existed, and that includes the IE world, wheat was considered the nobler of the two grains and preferred for human consumption, e.g., in the classical world where wheaten bread was the typical fare of the upper classes and barley bread that of the lower classes (soldiers, serfs and slaves). In several IE traditions we find the names of wheat and barley brought together as a designation for all grains. Thus we have Grk **πῦροὶ καὶ κριθή** 'wheat and barley' and likewise Hit *seppit euwann-a* 'wheat and barley'. In these combinations and in the placement of their constituents we have a small echo of the PIE poetic verbal tradition and an insight into how PIE speakers viewed one of their most important food sources.

See also AGRICULTURE; GRAIN; STAND; WHEAT. [D.Q.A., J.P.M.]

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BARREN

***ster-** 'barren, infertile'. [*IEW* 1031 (*ster-); Wat 66 (*ster-); GI 101]. Lat *sterilis* 'barren', NIce *stirtla* 'barren cow', OHG *stero* 'ram', Goth *stairō* 'barren', Bulg *sterica* 'barren cow', Grk **στεῖρα** 'barren cow', **στέριφος** 'infertile', Arm *sterǰ* (< *sterio-) 'barren', OInd *starī-* 'barren cow'. Widespread and old in IE.

See also CASTRATE. [D.Q.A.]

BASIN

?*louh$_3$trom ~ *louh$_3$dhrom '(wash-)basin'. [*IEW* 692 (*louə-tro-); Wat 37 (*leu(ə)-); BK 581 (*law-aħ-/*ləw-aħ-)]. OIr *loathar* (*DIL lōthar*) 'trough, vat, tub, basin; boat', MBret *louazr* 'basin', Gaul *lautro* 'bath', Lat *pō-lūbrum* 'wash-basin', Grk **λοετρόν** 'bath'. From *leuh$_3$- 'wash' with the instrumental suffix *-trom. Similar in construction, but different in meaning is ON *lauðr* 'soap', OE *lēaðor* 'soap, soda' (> NE *lather*); both a wash-basin and soap are (different) 'instruments of bathing'. Given the divergence in formation (*-trom vs. *-dhrom) and meaning, the likelihood that we have independent formations here rather than inheritance is high.

See also CLEAN; POT. [D.Q.A.]

BASKET

***k^{w}as-** '(wicker-) basket'. [*IEW* 635 (*k^{u}as-io-)]. Lat *quālus* ~ *quālum* 'wicker-basket', *quasillus* ~ *quasillum* 'small basket; basket for wool' (< *k^{w}as-slo- and *k^{w}as-slo-lo- respectively), OCS *koši* (*k^{w}as-io-) 'basket', Rus *koš* 'basket, hurdle'. A word of the northwest of the IE world.

***kreb-** 'basket'. [cf. *IEW* 948-949 (*(s)kerb(h)-)]. ON *hrip* 'packbasket', ME *rip* 'fishbasket' (perhaps < Old Norse), OHG *ref* 'frame for carrying something on one's back', Lith *krēpšas* 'large satchel, backpack'. Surely related are the *o*-grade MIr *corb* 'wagon (-seat)', Lat *corbis* 'basket' (whence by borrowing is OHG *korb* 'basket'), Lith *kar̃bas* 'basket', Latv *kā̀rba* 'bag made from alder- or birchbark', Rus *kórob* 'basket'. The Baltic and Slavic words are often, but not always, taken as borrowings from OHG *korb* (itself certainly a borrowing from Latin). The meaning of the Latv *kārba* argues against borrowing. The alder- or birchbark container is obviously a native craft, owing nothing to Germanic or Latin models. Indeed,

its technological ancestors, bark containers presumably for coals, were found as part of the possessions of Ötzi, the "Iceman of Tyrol", who was recently dated to *c* 3300 BC. In view of the meaning of the Germanic reflexes of our putative *kreb-*, it is possibly significant that the Iceman carried many of his possessions in a simple rucksack supported by a u-shaped frame. In any case, it would appear that we have here at least a word for 'basket' or the like, confined to the northwestern part of the IE world, though as an item of trade the word was subject to borrowing or at least renewal from one IE group to another. Related perhaps to *(s)kerbh-* 'turn' and, if so, more particularly to Grk *κάρφος* 'dry stalk, straw', a raw material for basketry.

See also BAG. [D.Q.A.]

BATHE *see* CLEAN

BE

***h$_1$es-** 'be' (pres. ***h$_1$ésmi** 'am', ***h$_1$ésti** 'is', ***h$_1$sénti** '[they] are'). [*IEW* 340–341 (*es-); Wat 17 (*es-); GI 256, 264 (*es-); Buck 9.91]. OIr *am/is/it* 'am/is/are', OWels *hint* 'are', Lat *sum/est/sunt* 'am/is/are', ON *em/es/ero* 'am/is/are', OE *eom/is/sind* 'am/is/are' (> NE *am/is*), OHG *ist* 'is', Goth *im/ist/sijun* 'am/is/are', OPrus *asmai/est* 'am/is', Lith *esmì/ẽsti* 'am/is', Latv *esmu/est* 'am/is', OCS *jesmĭ/jestŭ/sǫtŭ* 'am/is/are', Alb *jam/jenë* 'am/are', Grk *εἰμί/ἐστί/ἐντί* 'am/is/are', Arm *em/ē* 'am/is', Hit *ēsmi/ēszi/asanzi* 'am/is/are', Av *ahmi/asti/hanti* 'am/is/are', OInd *ásmi/ásti/sánti* 'am/is/are', *āsat-* (< *n̥-h$_1$s-n̥t-) 'non-being'. Nearly universal in IE. Possibly originally 'sit'. Already in late PIE it was common in some parts of the IE world to use a locative particle, *h$_1$e/on, either with or without 'be' in the third person. Thus beside *ἐστί* in Greek we also have *ἔν-ι* '(there) is' (whence NGrk *εἶναι* 'is'), Alb *ështē* (< *h$_1$en-sti) 'is', TochA *naṣ* (< *h$_1$(e)no-ti) 'is', TochB *nesäṃ* (< *h$_1$(e)no-s-) 'is'.

***bheu(h$_x$)-** 'come into being, be; grow'. [*IEW* 146–150 (*bheu-); Wat 8 (*bheuə-); GI 256 (*b^{h}uH-); Buck 9.91; BK 8 (*buw-/*bow-)]. A pres. *bhu̯ii̯e/o- is seen in the west of the IE world: OIr *-bīu* 'become', Wels *byddaf* 'be', Lat *fīō* 'become', OE *bēo* 'am' (> NE *be*); other formations are seen in: OHG *būan* 'live', OPrus *bēi* 'was', Lith *búti* 'be', OCS *byti* 'be', Alb *buj* 'lodge, stay', Grk *φύομαι* 'grow, become', *φύω* 'beget', Arm *busanim* 'sprout up', Av *bavaiti* 'becomes', OInd *bhávati* 'is' (and *bhú-* 'earth, world'). An old aorist *(h$_1$é)bhuh$_x$t 'was' is fairly widespread: Grk *ἔφῡν* 'would be', OInd *ábhūt* 'was', and perhaps Lat *fuī* 'was, have been', OCS *by* 'was'. Cf. the widespread nominal derivatives (1) *bhuto-: OIr *both* (*DIL buith*) 'hut', Wels *bod* 'dwelling', OPrus *buttan* 'house', Lith *bùtas* 'house', and, independently, Grk *φυτόν* 'plant'; *bhuh$_x$ti-: Lith *búti* 'to be', OCS *byti* 'be', Rus *bytĭ* 'to be', Grk *φύσις* 'nature', Av *būti-* 'name of a demon', OInd *bhū́ti-* 'being'; (3) *bhuh$_x$si̯ónt- '(what) will be': Lith *bū́šiant-* 'future', OCS *byšǫšt-* 'about to be, future', Av *būšyant-* 'what will be'. Widespread and old in IE. In the meaning 'be', it appears to have supplied the aorist beside the present *h$_1$es-. Its own present formations would appear to be late and only dialectally present in late PIE.

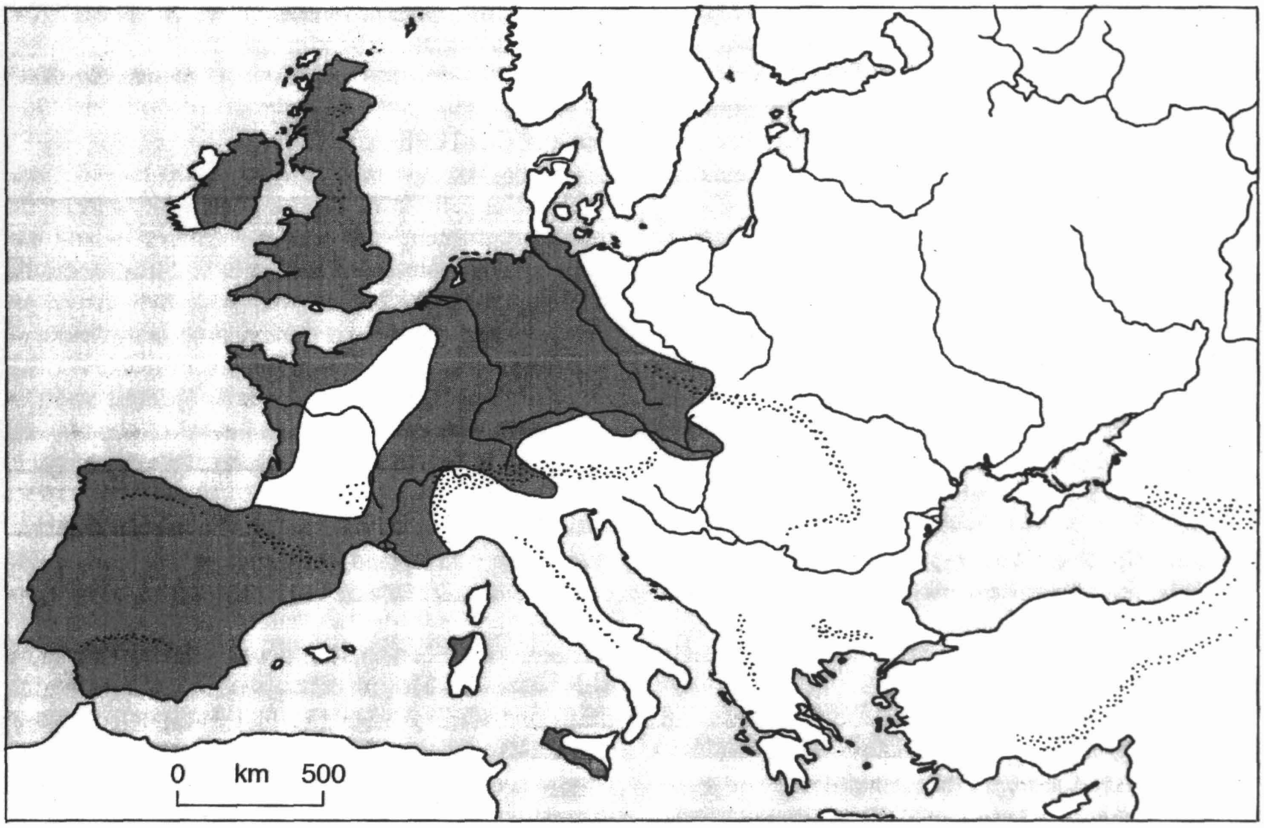
See also SIT. [D.Q.A.]

BEAKER CULTURE

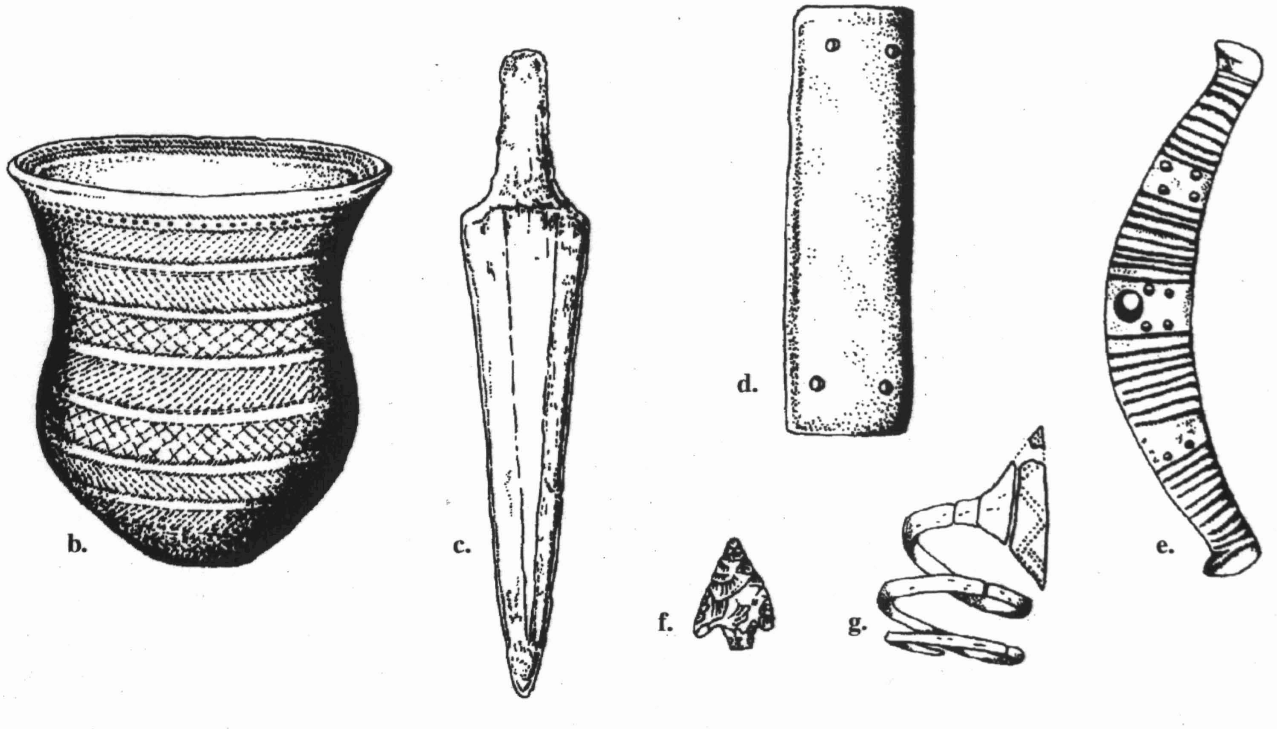
The Beaker "culture", dating to *c* 2600-1900 BC, is a late Neolithic or early Bronze Age cultural phenomenon that is found intermittently across Europe from Ireland east to Hungary and from Denmark south to Sicily. A distinctive drinking vessel, the beaker, often with an S-shaped profile and decorated in bands, is the defining characteristic of the Beaker horizon. Other frequent but not invariable associations are made with archery equipment (barbed-and-tanged arrowheads, wrist bracers, small bow-shaped pendants), v-perforated buttons, copper daggers, and copper, gold and silver ornaments.

At least four social mechanisms have been employed to explain the wide-spread distribution of the beakers and, in general, undermine their designation as a specific archaeological "culture". Their small cemeteries, the conservatism of ceramic forms over a broad area and their association with early metallurgy has fostered the suggestion that the "Beakers" were the first European "gypsies" or "tinkers", and hence explains their cultural integrity over a large area of Europe. The presence of finely made beakers in graves accompanied by local domestic wares has also suggested that these were the product of craft specialists and their largely maritime or riverine distribution has been explained as the result of west European exchange systems rather than evidence of any specific ethno-linguistic group. The combination of the beaker with the archery equipment and certain other non-subsistence goods has also been explained as a "cult package", adopted by diverse peoples across Europe, and participated in by the higher status members of society. In this way, the appearance of beakers, the analysis of which suggests their use in the consumption of mead, would perhaps mirror the much later (Iron Age) spread of Mediterranean wine-serving sets that were found in the graves of the Celtic aristocracies of western Europe. Finally, in some regions such as the Netherlands and France, northwest Iberia, parts of Britain and Ireland, beakers are also found in considerable numbers on settlement sites and may suggest population movements (or merely the degeneration of the original social prestige of the vessels to household wares). In general, there is probably no single explanation for the occurrence of beakers in every region of its distribution and there were probably several vectors (population movement, exchange, etc.) that account for their spread.

The Beaker "culture" has often been associated with the Indo-Europeans since there are good reasons to derive it from the area of the earlier Corded Ware culture (the Netherlands/Rhineland region is probably the most widely accepted), which is frequently regarded as early Indo-European. Alternatively, Marija Gimbutas derived the Beakers from east central European cultures that witnessed the early impact of



Beaker a. Generalized distribution of the Beaker "culture".



Beaker b. Bell beaker; c. Bronze dagger; d. Wrist-guard; e. Bow-shaped pendant; f. Flint barbed-and-tanged arrowhead; g. Silver earring

immigrating steppe tribes. The fact that the evidence for domestic architecture has been extremely meager and is generally confined to flimsy structures has suggested to some that the Beaker culture was highly mobile (presuming it represents an ethnic group). Beakers are also sometimes linked with the spread of the domestic horse (in Ireland and parts of Iberia, for example), solar symbolism, weaponry, and the introduction of early metallurgy—all seen as Indo-European traits. Some physical anthropologists have also argued that the Beaker population may represent an intrusive physical type in some of its areas of expansion. For those who argue for movement of people, the Beaker culture represents the earliest evidence for Indo-Europeans (or more specifically Celts) in the British Isles.

See also CORDED WARE CULTURE. [J.P.M.]

Further Readings

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BEAM see PLANK

BEAN

***bhabheh$_a$-** 'bean (*Vicia faba*)'. [*IEW* 106 (**bhabhā*); Wat 5 (**bha-bhā-*); Buck 5.66]. Lat *faba* 'bean', ON *baun* 'bean', OE *bēan* 'bean' (> NE *bean*), OHG *bōna* 'bean' (Gmc < **bhabhneh$_a$-*), OPrus *babo* 'bean', Rus *bob* 'bean'. Cf. Grk φακός 'bean' and Alb *bathë* 'bean' (< **bhak̂o/eh$_a$-*). At least a word of the west and center of the IE world.

The wild ancestor of the broad bean (*Vicia faba*) remains unknown and is perhaps extinct. The earliest certain archaeological evidence derives from the Near East, e.g., Israel, c 6500–6000 BC, and some remains are cited from early Neolithic Italy and the later Neolithic in Greece and Iberia while other forms of vetch are occasionally known from southern European Neolithic sites. Generally, the domesticated bean appears to have spread across the Mediterranean only about the third millennium BC and then northwards as the plant thrives in both warm southern regions and the more temperate climate of northern Europe. As it is found in central and northern Europe earliest in Bronze Age contexts (as is also the case in the Caucasus), its dissemination among the ancestors of the Germanic, Baltic and Slavic stocks probably dates to c 2000 BC or later. Varieties of *Vicia* also appear in India by the Bronze Age.

The common bean (*Vicia faba*) has been the subject of a short and inconsequential discussion of the IE homeland. Both the ancient Greeks, or at least the Pythagoreans, as well as Roman priests shared prohibitions against the consumption of the bean, which was seen as the repository of the souls of the dead. This religious justification was seen as supplementary to physical reasons for avoidance as consumption of the bean by some Mediterranean populations, particularly in south Italy, induced favism, a severe allergic reaction resulting in anemia, fever and other unpleasant effects. This favism in turn was seen to be a result of a particular gene deficiency (glucose-6-phosophate dehydrogenase) which, however, like the sickle-cell gene, provided additional resistance against malaria. On the basis of this, it was suggested that IE (actually Mediterranean) attitudes to the bean might then be sought in a homeland which fit the distribution of the mosquito and malaria, i.e., northwest of the Black Sea, the Balkans and central Europe. The concatenation of arguments bears little credibility since it confuses specifically Mediterranean beliefs and behavior with Proto-Indo-European and seeks an origin for the malaria-gene deficiency complex outside of the region where we actually find it in the Mediterranean.

See also AGRICULTURE; PLANTS. [D.Q.A., J.P.M.]

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BEAR[1]

***h$_2$ŕ̥tk̂os** 'bear (*Ursus arctos*)'. [*IEW* 875 (**ŕ̥k̂þo-s*); Wat 55 (**r̥tko-*); GI 417 (**Hr̥t^{h}k̂^{h}-*); Buck 3.73]. OIr *art* 'bear', Wels *arth* bear', Lat *ursus* 'bear', Alb *ari* 'bear', Grk ἄρκτος 'bear', Arm *arǰ* 'bear', Hit *hart(ag)ga-* (= */hartka-/*) 'a kind of priest or cultic official, bear-man', Av *arəša-* 'bear', NPers *xirs* 'bear', OInd *ŕ̥kṣa-* 'bear'. Note that Lat *ursa*, Grk ἄρκτος, OInd *ŕ̥kṣa-* all designate the 'Big Dipper' or 'Plow' (*Ursa Major*) constellation as well. Cf. also Lith *irštvà* 'bear's den', (dial.) *šìrtva ~ šìrta ~ šìrtas* 'den, lair' (if < **h$_2$ŕ̥tk̂o/eh$_a$*). Perhaps originally a nominalized adjective, **h$_2$r̥tk̂ós* 'destroying' (nominalized by a shift of stress), itself from **h$_2$rétk̂es* seen in Av *rašah-* 'destruction', OInd *rákṣas-* 'destruction'. Widespread and old in IE. It may be significant that in the northern tier of IE languages (Slavic, Baltic, Germanic, and [partly] Celtic) this inherited word for 'bear', originally itself surely a descriptive substitute for a term now completely vanished, was replaced by newer words, all apparently "taboo" substitutes. Thus in Germanic the bear is 'the brown' one (cf. ON *bjǫrn*, OE *bera* [> NE *bear*], OHG *bero*), in Baltic 'the ice-fisher' (cf. Lith *lokȳs* 'bear' and *luõkyti* 'break the ice in order to fish'), in Slavic (and Old Indic) the 'honey-eater' (thus OCS *medvědĭ* 'bear', OInd *madhv-ád-* 'honey-eater'). It has also been suggested that under the same taboo pressure, some Uralic tribes adopted the Indo-Iranian word for 'bear' which emerges in Finnish as *karhu* (< Indo-Iranian **hr̥kšas*).

The brown bear (*Ursus arctos*), the only likely referent of **h$_2$ŕ̥tk̂os*, was ubiquitous across Eurasia in almost all territories in which IE languages are spoken (as far south as Iran where it has been recovered from prehistoric sites, Kashmir

and the Punjab) although its present distribution has seen its virtual disappearance in western Europe. The bear has sometimes been regarded as diagnostic in excluding the steppe lands north of the Black Sea as a potential homeland area; however, remains of bears have been recovered from Tripolye, Sredny Stog, Yamna and Catacomb sites, clearly indicating their presence in this region. As this territory also includes the use of bear teeth in pendants or burial with bear claws, in both the steppe region and in the Fatyanovo culture in the forest zone, it is clear that bears may have also exercised some ritual-symbolic function in prehistoric society. How this role may have applied to specifically PIE society is difficult to determine as the bear is widely embued with certain cultic significance in many cultures, cf. Greek Artemis whose name is derived from that of the 'bear' and served as "Mistress of Animals" and the hunt. Bear-skin dress can be observed in a Hittite ritual where one of the dancers, the ^{LÚ}*hartagga-*, member of the 'bear people', is apparently dressed in a bear skin while the term in Old Norse for a warrior, operating out of control in battle-frenzy, is *berserkr* (> NE *berserk*), which many take to be literally 'bear-shirted', indicating one either dressed in the manner of a bear or having taken on the characteristics of a bear. The bear, in particular the she-bear, is a widespread symbol of fertility and child-bearing.

One historical curiosity is some nineteenth-century attempts to relate the word for bear, **h_2ŕtk̂os* with that for 'white, **h_2r̥ĝ-* (only possible with some non-discriminatory nineteenth-century reconstructions) and postulate an original PIE *'white (bear)'. This was one of a number of extraordinary arguments for the theory of a polar origin for the Indo-Europeans which here required the reconstruction of *'polar bear (*Thalarctos maritimus*)'.

See also MAMMALS. [D.Q.A., J.P.M.]

Further Readings

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BEAR²

bhére/o- 'bear (a child)'. [*IEW* 128–132 (**bher-*); Wat 7 (**bher-*); GI 32, 193 (**b^{h}er-*); Buck 4.72; BK 6 (**bar-/ *bər-*)]. OIr *beirid* 'bears, carries', Lat *ferō* 'bear, carry', ON *bera* 'bear, carry', OE *beran* 'bear, carry' (> NE *bear*), OHG *(gi)beran* 'bear, carry', Goth *baíran* 'bear, carry', OCS *berǫ* 'gather', ORus *berú* 'gather', Alb *bie* (< **bhéri̯ō*) 'bring, take', Grk *φέρω* 'bear, carry', Arm *berem* 'bear, carry', Av *baraiti* 'bears, carries', OInd *bhárati* 'bears, carries', TochAB *pär-* 'bear, carry'. A widespread but banal use of the ordinary, virtually pan-IE, word for 'bear, carry'. More probative are various derivatives: ON *barn* 'child', OE *bearn* 'child' (> NE *bairn* [in Scotland]), Alb *barrë* 'burden, fetus' (all < **bhorno-*), Alb *bir* (< **bhérōs*) 'son', Lith *bérnas* 'child', Latv *bȩ̄rns* 'child', TochB *prentsa* 'pregnant (of a woman); potent (of a man)'.

seu(h_x)- 'bear a child'. [*IEW* 913–914 (**seu-*); Wat 58 (**seuə-*); GI 511 (**seu-*); Buck 2.41, 4.71; BK 169 (**s^{y}aw-/ *s^{y}əw-*)]. OIr *suth* (< **su-tu-*) 'birth, fruit', Av *hu-* 'bear a child', OInd *sū́te* 'bears/begets a child'. More common are the derivatives **suh$_x$nus* and **suh$_x$i̯us* 'son': ON *sunr*, OE *sunu* (> NE *son*), OHG *sunu*, Lith *sūnùs*, OCS *synŭ*, Av *hunu-* (of evil beings), OInd *sūnú-*; and Grk *υἱύς*, TochA *se*, TochB *soy*. Cf. also Wels *hogen* 'girl' and Arm *ustr* 'son' (rebuilt after *dustr* 'daughter'). Outside of Anatolian this seems to be the original verb for 'bear a child'.

ĝenh$_1$- 'beget a child; be born'. [*IEW* 373 (**ĝen-*); Wat 19 (**genə-*); GI 652 (**k'en-(t^h)-*); BK 275 (**k'an-/*k'ən-*)]. OLat *genō* 'beget', *gignō* 'produce', OE *cennan* (< **ĝonh$_1$ei̯e/o-*) 'beget', Grk *γεννάω* 'beget', OInd *jánati* 'begets'. These are all secondary, transitive, formations built in the individual stocks. The underlying intransitive and undoubtedly older formation 'be born' is to be seen in OIr *rogēnar* (< **ro-gegn-*) 'am born', OLat *gnāscor* 'am born' (Lat *nāscor*), Grk *γίγνομαι* 'am born', *γέγονα* 'am born', OInd *jajána* 'am born'. The various present forms are post-PIE developments. Cf. too the plentiful derivatives such as Lat *nātiō* 'nation', Grk *γένεσις* 'birth, origins', OInd *jāti-* 'birth, family', etc.

tek- 'bear or beget a child'. [*IEW* 1057 (**tek-*); Wat 69 (**tek-*); GI 131 (**t^{h}ek^h-*); Buck 4.71, 4.72]. Grk *τίκτομαι* (< **ti-tk-omai*) 'bear, beget'. Cf. **tékmen-* and **tek(m)n-(ó)-*: ON *þegn* 'man, free servant', OE *þegn* 'freeman, master, noble, free servant' (> NE *thane*), OHG *degan* 'nobleman, hero; child, servant', OInd *tákman-* 'child, offspring'. Though less well attested, there is still good evidence for assuming PIE status for this root and its derivatives.

pelh$_x$- 'bear young (of animal)' (particularly 'to foal'?). [*IEW* 799 (**pel-*); Wat 47 (**pau-*)]. MWels *ebawl* (< **h$_1$ek̂u̯o-pōlh$_x$o-*) 'foal', ON *foli* (< **pl̥h$_x$on-*) 'foal, colt', *fyl* (< **pl̥h$_x$i̯o-*) 'foal, colt', *fylja* 'filly' (borrowed > NE *filly*), OE *fola* 'foal, colt' (> NE *foal*), OHG *folo* 'foal, colt', *fulihha* 'filly', Goth *fula* 'foal', Alb *pjell* 'give birth to, produce', *pelë* (< **pōlh$_x$n(i̯)eh$_a$-* [a lengthened grade derivative of the *n*-stem seen in the Germanic words for 'foal']) 'mare', Myc *po-ro* 'foal', Grk *πῶλος* 'foal', Arm *ul* (< **pōlh$_x$os*) 'kid, young of deer or gazelle', *amul* (< **n̥-pōlh$_x$os-*) 'unfruitful, barren', *yli* (< **i-* + **pōlh$_x$nii̯eh$_a$-*) 'pregnant'. At least a word of the west and center of the IE world.

See also CHILD; SON. [D.Q.A.]

BEAUTIFUL

kal- 'beautiful'. [*IEW* 524 (**kal-*); Wat 26 (**kal-*); Buck 16.81]. Grk *καλός* 'beautiful', *καλλίων* 'more beautiful', OInd *kalya-* 'healthy, prepared for, clever', *kalyā́ṇa-* 'beautiful, agreeable, excellent, good, salutary'. Although cited in some handbooks, the Germanic forms ON *halr* 'man', OE *hæle* 'man', OHG *helid* 'man, warrior' (< Gmc **kali-* 'man') are semantically insecure, while TochA *kälwälte* 'beautiful' is more likely < **keu-*. The heart of the etymology is the Greek-Indic correspondence, which is less than completely tight

semantically but fairly probable; otherwise, the evidence in every other stock is weak.

[J.C.S.]

BEAVER

bhébhrus 'beaver (*Castor fiber*)'. [*IEW* 136–137 (**bhe-bhru-s*); Wat 7 (**bhibhru-* ~ **bhebhru-*); GI 448 (**b^hib^her* ~ **b^heb^her*); BK 29 (**bur^y-/*bor^y-*)]. OBret *beuer* 'beaver' (if not loanword), Gaul *bebru-* 'beaver', Lat *fiber* 'beaver', ON *bjōrr* 'beaver', OE *beofor* 'beaver' (> NE *beaver*), OHG *bibar* 'beaver', OPrus *bebrus* 'beaver', Lith *bēbras* ~ *bebrùs* 'beaver', Rus *bobr* 'beaver', Av *bawra-* ~ *bawri-* 'beaver'. Cf. the underlying adjective in OInd *babhrú-* 'red-brown'. PIE **bhébhrus* 'beaver' shows regular retraction of stress in the originally derived noun. A secondary nominalization of OInd *babhrú-*, with no change of stress, yields OInd *babhrú-* 'mongoose'. There is a widespread PIE derivative **bhebhrīnos* 'pertaining to (a) beaver/beavers' in Gaul *bebrinus* '[river] of the beavers', Lat *fibrīnus* 'of the beavers', OHG *bibarin* 'of the beavers', Lith *bebrìnis* 'of the beavers', Av *bawraini-* 'of the beavers'. The 'beaver' also appears to underlie a series of tribal names, e.g., MIr *Bibraige*, OBrit *Bibroci*, and in Bythinia the tribal name *Bebrukes* has been interpreted as "Thracian".

The utility of beaver skins has insured that its presence is often attested on archaeological sites of the Neolithic period in those regions in which it was present. For example, at the site of Dereivka, proposed by supporters of the "Kurgan theory" as one of the typical early Indo-European settlements, the remains of fifteen beavers were recovered that suggests deliberate hunting rather than chance encounters. It has also been recovered from Poland during the Neolithic in considerable numbers. The general range of the beaver in the Neolithic period extended from Britain (but not Ireland despite the evidence for 'beaver' in a tribal name) on the west across Siberia; however, the southern limits are generally set north of the Mediterranean (although the beaver has been claimed for Iberia), Anatolia and the area north of the Caspian and Aral seas. Its lexical retention in Iranian is not unexpected since the territory of some of the eastern dialects could still include the beaver. In the *Avesta* the beaver is associated with the goddess Anāhitā. Its absence from the Indian subcontinent explains not only the loss of PIE *bhébhru-* 'beaver' but also the morphological gap which permitted the creation of *babhrú-* 'mongoose'.

See also MAMMALS. [D.Q.A., J.P.M.]

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BED

léghes- ~ ***lóghos*** 'place for lying, bed, couch'. [*IEW* 658–659 (**legh-*); cf. Wat 35 (**legh-*); GI 29 (**leG^h-*); Buck 7.42; BK 587 (**lag-/*ləg-*)]. From **léghes-*: MBret *lech* (< **legh-s-o-*) 'place', Grk λέχος 'bed, bier'; from **lóghos*: ON *lag* 'layer, place', Rus *log* 'ravine', SC *lôg* 'lair, den; riverbed', Alb *lagje* 'city precinct, neighborhood' (*-je* is a secondary suffix), Grk λόχος (< **logh-o-*) 'place for lying, ambush', TochA *lak* 'riverbed', *lake* 'bed, resting place', TochB *leke* ~ *leki* 'bed, resting place'. Other formations are seen in OIr *lige* (< **leghi̯om*) 'act of lying down; bed, couch, grave', Wels *lle* (< **legho-*) 'place', Lat *lectus* (< **legh-to-*) 'bed, funeral couch', OE *leger* 'lying, illness; couch, bed; grave' (> NE *lair*), OHG *legar* 'couch, grave', Goth *ligrs* 'bed, couch' (< **legh-ro-*), OHG *lehtar* 'womb; placenta', Grk λέκτρον (< **léghtrom*) 'couch, bed; marriage bed'. Cf. Grk ἄλοχος 'partner of one's bed, wife', SerbCS *su-logŭ* 'wife' (both < **sm̥-logho-* 'lying together'). From **legh-* 'lie down'.

?*sterh₃mn̥ (gen. ***str̥h₃mnós** or ***str̥h₃méns**) 'strewn place, ?bed'. [*IEW* 1029–1030 (**str̥-men-*); Wat 66 (**ster-*); Buck 7.42; BK 113 (**t[^h]ar-/*t[^h]ər-*)]. Lat *strāmen* 'straw', Grk στρῶμα 'straw, bed', OInd *stárīman-* 'act of spreading-out; bed, couch'. From **ster(h₃)-* 'strew'.

Although the two terms derive from PIE roots, both, but particularly the second, may be banal constructions, built on the concepts of 'lying down' or 'strewing', which may have developed independently in various stocks. Although clay models of chairs and tables from Neolithic (*c* 6000–4000 BC) south-east Europe suggest skills of carpentry technology that might have produced a timber-framed bed, there is no evidence for a reconstructible word for a bed as furniture and what little archaeological evidence does exists suggests, in general, only a place where organic material may have served as a soft foundation for sleeping. The underlying form in the Germanic languages (ON *beðr*, OE *bedd* [> NE *bed*], OHG *betti*, Goth *badi*), **baðja-* 'bed' is also to be found as a Finnish loanword, *patja* 'cushion', and is presumed to derive from **bhedh-* 'bend, press', with reference to some organic material on which one might lie. The extension of meaning from 'lying down' or 'bed' to 'grave' or 'bier' is found in Celtic, Italic (where Latin *lectus* > OIr *lecht* 'grave') and Germanic. Greek and Roman sources reveal that the dead were placed on a bed before being carried to either a place of burning or burial.

See also LIE[1]; LITTER. [A.D.V.]

BEE

bhi-k^wó- 'bee, stinging insect'. [*IEW* 116 (**bhei-*); GI 516 (**b^hoi-k^h-*); Buck 3.82; BK 27 (**bay-/*bəy-*)]. OIr *bech* 'bee' (also 'wasp' in compounds), Wels *begegyr* 'drone' (< Proto-Celtic **biki̯o-*), ON *bȳ* 'bee', OE *bēo* 'bee' (> NE *bee*), OHG *bīa* 'bee' (< Proto-Gmc **bigwá-*), OCS *bĭčela* (< Proto-Slavic **bike-lā*) 'bee'. With a different, probably *o*-grade is Lat *fūcus* 'drone'. With a different suffix are the Baltic cognates: OPrus *bitte* 'bee', Lith *bìtė* 'bee', Latv *bite* 'bee' (< **bhih_x-tiha-*). Distribution indicates that this word was confined to the northwest part of the early IE world. The word appears to be formed from **bhei(h_x)-* 'strike, attack'.

melítiha- 'honey-bee'. [*IEW* 723–724 (**melit-*); Wat 41 (**melit-*); GI 516; Buck 3.82; BK 535 (**mal-/*məl-*)]. Alb *bletë* (< **melítiha*) 'honey-bee', Grk μέλισσα (< **melítiha*)

'honey-bee'. A late term shared by two contiguous stocks of the center of the IE world and based on the word for 'honey'.

dhren- 'drone' (< 'buzz'). [*IEW* 255 (**dher-*)]. OE *drān* 'drone' (> NE *drone*), OHG *trēno* 'drone', Grk ***θρῶναξ*** 'drone' (cf. also *τενθρήνη* 'hornet', *ἀνθρήνη* 'wood-bee', *θρῆνος* 'lament for the dead, keening'). The presence of a specialized term for a male bee, albeit limited to the west and center of the IE world, may be due to the observation that in summer some bees gather at the entrance of the hive to fan the honey and that in the autumn dead male bees are at the entrance of the hive whence they have been expelled to reduce the population in the winter.

kṃh$_x$p-h$_a$- 'drone'. [*IEW* 634]. OHG *humbal* 'drone', Grk *κηφήν* 'drone'. At best a possible late IE isogloss.

The geographically confined terms for the 'bee' suggests that we are not in a position to reconstruct a term for honey-bee, *Apis mellifer*, to PIE itself. Nevertheless, the existence of reconstructed terms for 'honey' and 'wax' clearly indicates that the early IE-speakers were familiar with that insect and her works.

Races of *Apis mellifera* are widely disseminated through Europe and the forested areas of western Asia as well as southwest Asia, Iran and India. They are, however, absent from the desert areas east of the Caspian which was a likely staging area for the migration of Indo-Iranian tribes southwards. Consequently, the absence of cognate terms for 'bee' and 'honey' and the shifts in meaning from 'mead' that are found in most of the Indo-Iranian languages is not entirely unexpected.

The exploitation of bees by human communities probably goes back to the earliest forms of hominids as primates today, as well as many other animals, have been gathering honey for millions of years. The earliest representational art of honey gathering occurs at about 7000 BC in Spanish rock art and hives are depicted in Egyptian art from the middle of the third millennium BC.

The question of "domestication" is moot, for bees were not domesticated like other animals, even when kept for their honey but merely lured into thatched skeps, artificial dwelling places known to Hesiod (*Theogony* 593-599), until enough honey was produced to make the destruction of the skep profitable. Destruction of the habitation site, however, frequently caused the bees to relocate, and one spell (*Anglo-Saxon Poetic Records* 6.125) records the magical attempts to avert their relocation at an inconvenient distance. Pliny's *Natural History* records the complementary folk custom of attracting wild bees with dead carcasses.

See also HONEY; HUM; INSECTS; WAX. [M.E.H.]

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BEECH

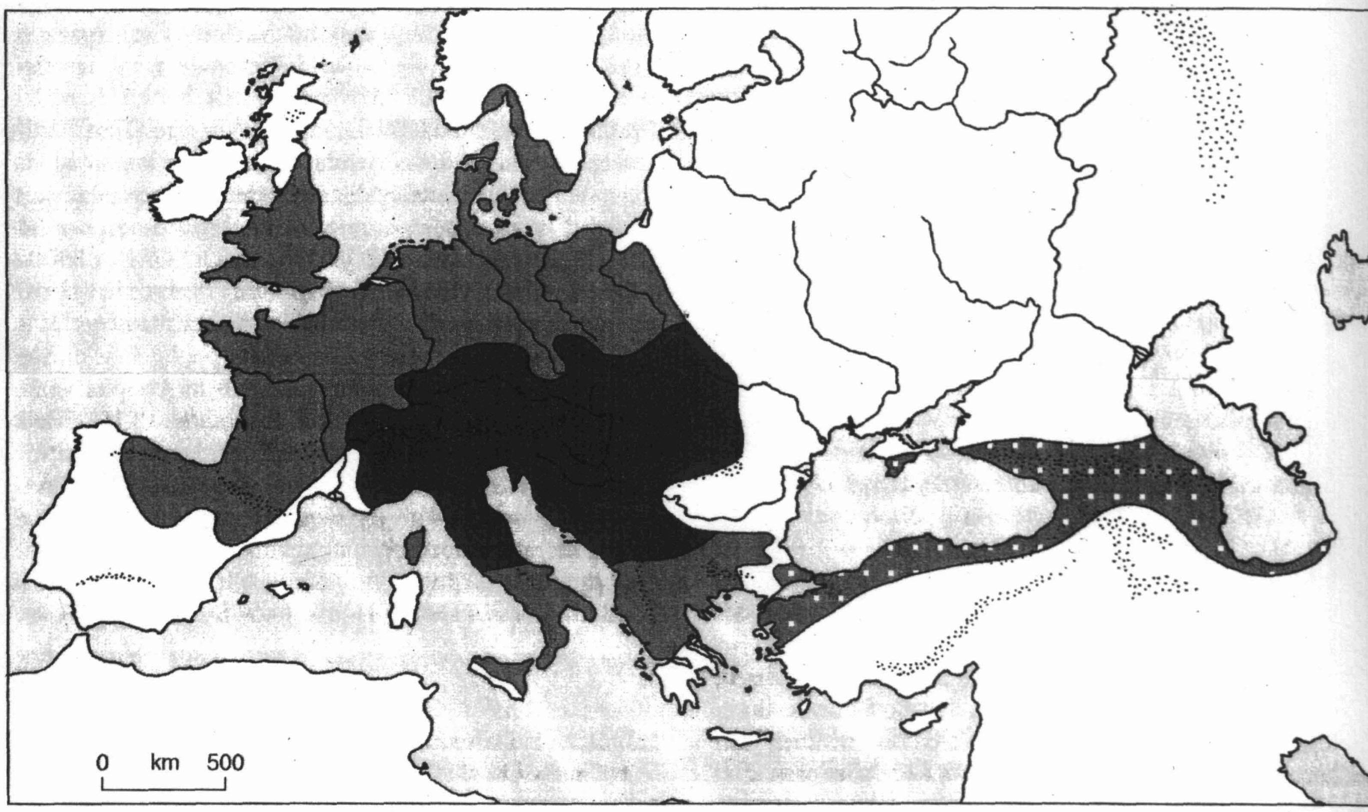
bheh$_a$ĝós 'beech (*Fagus silvatica*, *F. orientalis*)'. [*IEW* 107–108 (**bhāgó-s*); Wat 5 (**bhāgo-*); GI 533–535 (**b^{h}aHk'o-*); Buck 8.62; Fried 106–115]. Gaul *bāgos* 'beech', Lat *fāgus* 'beech', ON *bōk* 'beech', OE *bōc* 'beech; written document, book' (> NE *book*), *bēce* (< Proto-Gmc **bōkjō-*) 'beech' (> NE *beech*), OHG *buoh* 'written document, book', *buohha* ~ *buocha* 'beech', Rus *buz* 'elder', Alb *bung* (< **bheh$_a$ĝnos*) 'oak', Grk *φηγός* 'oak'. A word of the west and center of the IE world.

The term for 'beech' is at once a basic and accepted component of the early IE vocabulary, and the subject of much controversy as to its actual form. Critical reflexes (with typical divergent vocalisms) include Grk (Attic) *φηγός* 'oak', ON *bōk* 'beech', and no less than eleven Slavic forms such as SC *bâs/basa*, all of which mean 'elder'. Many of the Italic, Germanic and Greek forms argue for (long or short) *a*. Almost all forms indicate an initial **bh-*; the Slavic, a palatal **ĝ*, and the Greek, Germanic and Italic, a feminine o-stem, thus **bheh$_a$ĝós*.

The semantic vicissitudes of these arboreal words include the metonymic shift to a) 'hot lye or buck' (MHG *būchen* ~ *biuchen*), reflecting one use, and b) 'bookstaff' or 'letter' (OHG *buohstap*), and even 'book' (from OE *bōc* 'book'). The smooth gray bark seems to have been used for writing, especially in religious contexts, e.g., the beech was sacred in the groves of the Alban Hills dedicated to Dōdōna. Metaphorical shifts include the following: a) three varieties of elder in the Slavic area on the basis, presumably, of the bark, the bright green oblong leaves, edible fruit, and the overall shape (a missing link of sorts provided by the borrowed Baltic terms which denote either 'beech' or 'alder'); b) 'oak' in Greek and Albanian on the basis of such similarities as the edible nuts and, possibly, a religious taboo placed on the 'oak' term so that the 'beech' word "filled the gap". Despite the peregrinations of meaning and the variations of form, especially the vowel, the distribution of stocks exhibiting cognates for this word could suggest that IE **bheh$_a$ĝós* referred to the common beech (*Fagus silvatica* Linnaeus).

The beech has been long regarded as a critical marker of the location of the IE homeland. The argument, simply stated, observed that whereas a term for 'beech' could be reconstructed to the PIE vocabulary, the historical distribution of the beech was limited to the territory west of a line from Kaliningrad (Königsberg) on the Baltic Sea to Odessa on the Black Sea. This distribution might then be employed to demonstrate that the IE homeland must also lie to the west of this line (generally, it was argued, in northern Europe) and that a homeland north of the Black or Caspian seas must be excluded. The argument rests on three assumptions—that **bheh$_a$ĝós* actually meant 'beech' rather than any of its other semantic reflexes, e.g., 'oak', 'elder'; that **bheh$_a$ĝós* could be attributed to PIE antiquity rather than a later dialectal status; and that the assumed distribution of the beech in prehistory was correct.

The first assumption, that **bheh$_a$ĝós* actually indicated



Beech Distribution of the beech. Dark shaded area represents distribution of the beech (*Fagus silvatica*) *c* 4000–3000 BC; the lighter shaded area reflects expansion of the beech by the Iron Age whose eastern border marks the famous "beech line". The shaded and dotted area represents the distribution of *Fagus orientalis* and, in the Crimea, *Fagus taurica*.

the 'beech' rather than either a different tree or a taxonomically broader class of trees that may have involved a number of species has been challenged. As both the Alb *bung* and the Grk *φηγός* both refer to the 'oak' while the beech is quite common in the regions of both these stocks (it is the second commonest tree in Albania), the motivation for a semantic shift from 'beech' to '(chestnut) oak' is by no means clear. As for the second assumption, the distribution of cognates for **bheh$_a$ĝós* are limited to languages of the west and center of the IE world and there are no grounds for asserting greater antiquity. Attempts to adduce potential Iranian cognates such as Kurdish *būz* 'elm' to this series have been universally rejected.

The third assumption concerns the prehistoric distribution of the beech. There are two main species of *Fagus* in areas relevant to the earlier distribution of the Indo-Europeans. The most widespread is *Fagus silvatica* the 'common beech' which today may be found across much of Europe, being absent as a native plant only in northern Scandinavia, much of the British Isles, and the southern Mediterranean (southern Iberia, southern Italy, southern Greece). The more restricted *Fagus orientalis* is native to Greece and the Balkans and can also be found over northern Anatolia and the Caucasus. In addition to its palynologically attested distribution the beech is well-known from archaeological contexts where it was employed for the production of implements, e.g., oars, handles, shuttles. The nuts of the beech were also a nutritious source of edible oil and mast for pigs since the Neolithic period onwards.

The spread of the beech after the end of the last Ice Age can be traced across Europe where the initial finds are confined to southern and central Europe. By *c* 6000 BC the beech was largely confined to northern Greece, the Balkans and the Alpine region with expansions westward into northern Italy and towards south and central France. By *c* 4000 BC the beech may be found as far north as southern Germany and Romania. By 3000 BC, the beech would have penetrated further north into southern Poland and by 2000 BC the beech would have reached the Baltic Sea and northern France. Despite many claims to the contrary, this temporally dynamic spread of the beech offers little comfort to any putative solution to the IE homeland problem. In the area of Asia where we believe the beech was quite native, i.e., Anatolia to northern Iran, it is linguistically unattested. Its heartland in Europe was largely confined to Greece and the Balkans, the very territories that provide the meaning 'oak' rather than 'beech'. In those regions where IE stocks do attest the meaning 'beech', the tree itself seldom appears earlier than the Bronze Age, i.e., clearly after the period of PIE disintegration/IE expansions. Its sensational spread north and westwards from its original core area during the Bronze Age (*c* 2500–1000 BC) may correspond roughly

to the expansion of some IE peoples into western Europe as the vast primeval forests of beech and oak had been established in Gaul and Germania but the concatenation of assumptions required to press the "beech line" into an argument concerning the earlier location of the Indo-Europeans would appear to be exceedingly dubious.

See also TREES. [P.F., J.P.M.]

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BEER

$*h_a$elut- 'beer'. [*IEW* 33–34 (**alu-*); Wat 2 (**alu-*); GI 838]. ON *ǫl* 'beer', OE *ealu* (gen. *ealoþ*) 'beer' (> NE *ale*), OPrus *alu* 'mead', Lith *alùs* 'beer', Latv *alus* 'beer', OCS *olŭ* 'beer', *olovina* 'dregs of beer', Rus *ol* 'beer, any alcoholic beverage except wine' (both Baltic and Slavic words have at times been taken as borrowings from Germanic but there is no particular reason to do so), Oss *ælūton* 'beer'. As a word for 'beer', it is confined to the northwest of the IE world with an outlier in eastern Iranian. At least late IE in date.

There are two proposals for connections outside this area. One would see *$*h_a$elut-* as the 'bitter drink' and related to Lat *alūmen* 'alum', and Grk *ἀλύδοιμος* 'pungent, bitter'. The second proposal is that this word is the same as Runic *alu*, a magical term of some sort, and ultimately related to Latv *aluôt* 'be distraught', Grk *ἀλύω* 'be beside oneself', and Hit *alwanzahh-* 'bewitch, hex' (based on an unattested **alwanza-* 'affected by sorcery' < *$*h_4$elunso-* < *$*h_4$elusno-*). The notion would be, then, that beer induced a "high" wherein the drinker was infused with a sort of magical power.

The origin of beer is difficult to date although on theoretical grounds alone it has been thought to date from the origins of agriculture and the earliest domestication of barley by the ninth millennium BC, i.e., an inevitable (and fortuitous) discovery. On the other hand, the earliest reputed evidence for beer derives from the site of Godin Tepe in western Iran where a jug, dated to *c* 3500–3100 BC, was claimed to contain the residue of beer and a vat recovered from the Early Dynastic (*c* 3500–3400 BC) site at Hierakonpolis in Egypt yielded evidence of beer residue (wheat, barley, dates, grape pips and signs of fermentation). Other evidence are the pictorial representations of brewing vats in Predynastic Egypt and straws for straining and drinking beer that are known from Mesopotamia *c* 3200 BC.

Generally, evidence for the existence of beer in Europe consists of either sprouted grain, usually but not invariably barley, or the presence of aromatic plants employed to flavor beer. In Europe the former is not commonly known before the first century BC (and may be due merely to storage in damp conditions) while the latter, generally in the form of sweet gale/bog myrtle (*Myrica gale*) or hops (*Humulus lapulus*), is not found until the early Middle Ages. This "hard" archaeological evidence tends to be much later than is suggested by linguistic evidence or the presence of vessels believed to have been employed in the consumption of alcoholic beverages which begin to appear in Europe *c* 3500–3000 BC although they are perhaps more likely to have been associated with the drinking of mead rather than beer. It is clear that beer was consumed by various populations during the Iron Age, e.g., Xenophon records it in Anatolia while Dionysius of Halicarnassus (*Roman Antiquities* 13.10) claims that the Gauls drank a 'foul-smelling liquor made from barley rotted in water'. As beer does not appear to have been commonly consumed in either the Aegean or Italy in classical times, the absence of cognate terms in Greek and Latin occasions little surprise.

See also DREGS; FERMENT; HONEY; JUICE; SACRED DRINK; WINE. [D.Q.A., J.P.M.]

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BEETLE *see* INSECTS

BEFORE

$*h_2$enti 'in front'. [*IEW* 48–49 (**anti*); Wat 3 (**ant-*); GI 136 (*$*H_2ant^h$-*); BK 414 (**ħaŋ-t$^{[h]}$-/*ħəŋ-t$^{[h]}$-*)]. Lat *ante* 'in front of,' Lith *añt* 'on, upon; at', Grk *ἀντί* 'instead of, for', *ἄντα* 'face to face', Arm *ənd* 'for', Hit *hanti* 'facing, frontally; opposite, against', *hanza* 'in front', *handa* '(to the) fore', OInd *ánti* 'opposite'. These are all frozen case forms of a noun which survives in Lith *añtis* 'breast(s)', Hit *hant-* 'forehead, front', TochB *ānte* 'brow'. Cf. also Lat *antiae* 'forelock' and Grk *ἀντίος* 'opposite'. Old in IE.

***pr̥h_aéh_1** 'in front of; before (of time)'. [*IEW* 813 (**pr̥-*); Wat 49 (**pr̥əā-*); BK 40 (**p$^{[h]}$a-/*p$^{[h]}$ə-*)]. OE *fore* 'in front of, before' (> NE *fore*), OHG *fora* 'in front of', Goth *faúra* 'in front of', Grk *παρά* 'by, near, alongside of, beyond', Arm *ar* 'near, at', Av *parā* 'before', OInd *purā́* 'formerly, before'. Old in IE. From **per* 'through' ('through' and therefore 'beyond, out front of').

***pr̥$h_a$éi** 'in front of; before (of time)'. [*IEW* 811–812 (**prai*); Wat 49 (**pr̥ə-i-*)]. OIr *anair* 'from the east' (the east is in front of anyone who orients him/herself towards the rising sun as appears to have been the common PIE custom), Gaul *are-* 'before, by, east', Lat *prae* 'before', OPrus *prei* 'to', Lith *priẽ* 'by, at, near; to; in the time of', Grk *παραί* 'before', OInd *paré*

'thereupon'. From **per* 'through' ('through' and therefore 'beyond, out front of'). Old in IE.

***pro** 'forward, ahead, away'. [*IEW* 813–814 (**pro*); Wat 49 (**pro*)]. OIr *ro-* (verbal prefix), MWels *ry* (verbal prefix), Lat *prō* ~ *pro* 'before, in front of, for', OHG *fir-* 'before', Goth *fra-* 'before', OPrus *pra* 'through', Grk *πρό* 'in front of, in defence of, forward; before (of time)', Hit *parā* 'forward, further', Av *frā* 'in front of', OInd *prá-* 'before'. From **per* 'through' ('through', therefore 'ahead of').

See also Adpreps; Behind; Direction; Face; Forehead. [D.Q.A.]

BEGIN

***neik-** 'begin'. [*IEW* 761 (**nēik-*)]. OPrus *neikaut* 'change', Lith *už-ninkù* 'begin', *ap-ninkù* 'assault', OCS *vŭz-nĭknǫti* 'regain consciousness', Grk *νεῖκος* 'quarrel', Hit *nini(n)k-* 'start up, mobilize'. Though only sparingly attested, the geographical distribution of that attestation guarantees PIE status.

See also Set in Motion. [D.Q.A.]

BEHIND

***ĝhō-** 'behind'. [*IEW* 451–452 (**ĝhō-*); Wat 23 (**ghō-*)]. Lith *až(ù)* 'behind', Latv *az* 'behind' (< Proto-Baltic **ažō*), Rus *za* 'by, to', Arm *z* (preverb 'with regard to'). At least a late IE preposition and particle.

See also Adpreps; Back[2]. [A.D.V.]

BELCH

$*h_1$reug- 'belch'. [*IEW* 871 (**reu-b* ~ **reu-g-*); Wat 55 (**reug-*); GI 430–431 (**reuk̂'-*); Buck 4.57]. Lat *ērūgō* 'belch', OE *rocettan* 'belch', MHG *ite-rücken* 'ruminate', Lith *riáugmi* ~ *rúgiu* 'belch', Rus *rygátĭ* 'belch', Grk *ἐρεύγομαι* ~ *ἐρυγγάνω* 'vomit', Arm *orcam* (< **orucam*) 'belch', NPers (noun) *ā-rōγ* 'belch'. Widespread and old in IE. Probably unrelated to words for 'roar'.

See also Spew. [D.Q.A.]

BELIEF

***k̂red-dheh$_1$-** 'believe' (< *'place heart'). [*IEW* 580 (**k̂red-dhē*); Wat 30 (**kred-dhə-*); GI 701 (**k̂hret'-dheH-*); Buck 17:15]. OIr *creitid* 'believes', Lat *crēdō* 'believe', Hit *k(a)ratan dai-* 'place heart', Av *zrazdā-* 'believing', *zrazdāiti-* 'belief', OInd *śrád-dadhāti* 'believes, has trust in', *śrad-dhā́* 'faith'. Although all the terms are generally regarded as cognate and indicative of PIE status, there has been considerable debate over the deeper etymology of the expression since it has long been recognized that the 'heart' element of this reconstruction is problematic. The Old Indic word for 'heart', for example, is *hṛ́d-* and the Avestan is *zərəd-* and hence the first element of the Old Indic compound, *śrād-* cannot be easily derived from the word for 'heart' (though OInd **ś-* [and Av **s-*] is what we would expect the word 'heart' to begin with on the basis of other IE languages). Emile Benveniste argued that the first element in the expression was **k̂red-* 'pledge, stake invested with magic power'. Such a reconstruction is based on both linguistic arguments and the use of the term in Old Indic. In the *Ṛgveda* 'belief' involved prayers to the gods in which the human supplicant put trust in a deity, particularly Indra, in the certainty that the trust would be remunerated. The context of the supplications were generally those involving some trial, e.g., trust in Indra who would fight the demon Vṛtra. Moreover, Benveniste maintained that there were no other parallels in the early IE languages for seeing the 'heart' as the organ of belief or trust. However, there is no trace otherwise of **k̂red-* 'pledge, stake invested with magic power' and the majority of linguists has continued to see **k̂red-* as a form of 'heart' (which is fully supported by the expression in Hittite). Even if Benveniste were right, we must assume the influence of the form of the Avestan word 'heart' on the word for 'believing' since the latter would otherwise be **srazdā-*. It may be worth noting that the descendant of the PIE word for 'heart' in Tocharian A means 'will'.

$*h_xeh_x$- 'trust in, believe'. [Wat 45 (**ō-*); GI 706 (**Ho-*)]. Lat *ōmen* 'sign, omen' (< 'declaration of truth'), Hit *hā(i)-* 'believe, take as truth' (the Hittite might either reflect an athematic $*h_x\acute{e}h_x$*-ti* or an iterative-intensive $*h_xoh_x$*-ei̯e/o-*). (One of the laryngeals must be $*-h_3-$; if it is the second laryngeal, then the first must be $*h_2$-). Perhaps also here are OIr *oeth* 'oath', ON *eiðr* 'oath', OE *āþ* 'oath' (> NE *oath*), OHG *eid* 'oath', Goth *aiþs* 'oath' if the Celtic and Germanic reflect $*h_xeh_x$*-i-to-*. It has been suggested that the Celtic, Germanic and Hittite words belong together from a PIE $*h_3ei$- but that forces one to leave aside the otherwise attractive Lat *ōmen*. On the other hand, it has also been suggested that the Celtic and Germanic words for 'oath' are derivatives of $*h_1ei$- 'go', i.e., one goes about a fire in swearing an oath; cf. the formally identical Grk *οἶτος* 'course, fate'.

***peri-steh$_2$-** 'belief'. [Del 79]. OIr *ires(s)* 'belief', Parthian *parast* 'ardor'. From **peri-* 'before' + **steh$_2$-* 'stand' (i.e., 'hold oneself before'). Perhaps independent creations in the two stocks.

See also Heart. [D.Q.A., J.P.M.]

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BELT *see* GIRD

BEND

***h$_2$enk-** ~ ***h$_2$eng-** 'bend an object so that it stays bent'. [*IEW* 45–46 (**ank-* ~ **ang-*); GI 626 (**Hankh-*); Buck 9.14; BK 395 (**ħan-/*ħən-*)]. With *e*-vocalism: OIr *ēcath* 'fishhook', Wels *angad* 'grip', ON *angi* 'spine', OHG *ango* 'fishhook', Lith *ánka* 'loop', Av *aka-* 'hook', OInd *áñcati* 'bends', *áṅkas-* 'bending, curvature', TochA *añcäl* 'bows'; with *o*-vocalism: Lat *uncus* 'bent', OE *anga* 'prickle', OCS *ǫkotĭ* 'hook', Grk *ὄγκος* 'barb', MPers *ančītan* 'bends'. Hit *hinkzi* 'bows (reverentially), curtsies' presents difficulties since one would expect **ha-* as the outcome of **h$_2$e-*; however, O. Lindeman

suggests that the form may have had an original diphthong as is evident in the Old Hittite spelling *ha-in-kan-ta*. The broad distribution of cognates makes the form securely reconstructible to PIE.

bhedh- 'bend (one's body)'. [*IEW* 114 (**bhedh-*); GI 133 (*b^{h}ēd^h-*)]. ON *biðja* 'ask, pray', OE *biddan* 'ask' (> NE *bid*), OHG *bitten* 'ask, request', Goth *bidjan* 'ask, pray', Lith *bādas* 'hunger', Alb *bind* 'convince', OInd *bā́dhate* 'presses', TochA *poto* 'honor', TochB *pauto* 'honor'. The correspondence between OInd *jñu-bā́dh-* 'bending the knees' and OE *cnēow-gebed*, OSax *kneo-beda* 'prayer (with bended knee)', strongly suggests that the Germanic forms belong here. On the other hand, it is also possible to derive the Germanic forms from **g^{w}edh-*, seen also in OIr *guidid* 'requests', Lith *gedáuti* 'desires', Grk *πόθος* 'desire'. Even with the Germanic forms excluded, the root is securely reconstructible to PIE.

bheug- 'bend (an object)'. [*IEW* 152–153 (**bheug-* ~ **bheugh-*); Wat 8 (**bheug-*); Buck 9.14]. OIr *boc* 'soft' (< *'pliable'), *boingid* 'breaks', OHG *biogan* 'to bend', Goth *biugan* 'break', Latv *bauga* 'hill', OInd *bhujáti* 'bends, curves'. It has been suggested that this root and **bheug-* 'flee' (seen in Lat *fugiō* 'flee', Grk *φεύγω* 'flee') are ultimately from the same root, but it is more likely that they are homophones. The wide geographical spread insures PIE status.

geu- (***geh$_x$u-***?) 'curve'. [*IEW* 393–398 (**gēu-*); Wat 2 (**gēu-*); BK 281 (**k'aw-/*k'əw-*)]. Highly productive root which, with various extensions and suffixes, may underlie a large number of nominal forms, several which relate to the human body. It is impossible to say whether the notion of 'curve' is genuinely present in all the forms or even if they are all certainly related to one another. These include **gudóm* 'intestines', **gu-ro-s* 'lock of hair', **gut-r̥* 'throat, neck' (Lat *guttur* 'throat', Hit *kuttar* 'neck'), **gu-r-no-s* 'back' (Lith *gum̃as* 'hip, haunch', Arm *kurn* 'back'), and other features such as **gupeh$_a$-* 'hole, chamber' (ON *kofi* 'small chamber', OE *cofa* 'small chamber, den' [> NE *cove*]; **geu-lo-s* 'ball' (Lat *vola* 'hollow of hand', Grk *γύαλον* 'hollow', Arm *kalum* 'take', OInd *gola-* 'ball, globe'). If the root **geh$_x$u-* 'curve' does indeed underlie the nominal forms, then the large number of derivatives and the geographical spread of the cognates suggests that it must be of early date.

kam-p- 'bend (of terrain)'. [*IEW* 525 (**kam-p-*); Wat 26–27 (**kamp-*)]. Lat *campus* 'field', Goth *hamfs* 'maimed', Lith *kam̃pas* 'corner; region', Latv *kampis* 'tree scrub; pothook', Grk *κάμπτω* 'bend', *καμπή* 'bend (in a river)'. The fact that the Latin, Lithuanian and Greek nominal forms all refer to landmarks or features of the terrain suggests that this shade of meaning was also present in the proto-language.

keu-k- 'curve'. [*IEW* 589 (**keu-k-*); Wat 31 (**keu-*); BK 250 (**k[^{h}]aw-/*k[^{h}]əw-*)]. OIr *cúar* (< **kuk-ro-*) 'curved', ON *hār* 'high', OE *hēah* 'high' (> NE *high*), OHG *hōh* 'high', Goth *hauhs* 'high', OPrus *cawx* 'devil', Lith *kaũkas* 'boil; goblin, gnome', *kaũkaras* 'high ground, hill', Latv *kauks* 'hobgoblin', *kukurs* 'hump; lump of earth', OCS *kukonosŭ* 'curve-nosed', OInd *kucáti* 'contracts, bends, curves', *kuca-* 'female breast', TochA *koc* 'high', TochB *kauc* 'high'. The Lith *kaũkaras* 'high ground, hill' provides an intermediate semantic step between the original meaning 'curve' and the Germanic meaning 'high'. These forms, as well as those forms meaning 'boil', 'hump' and 'breast' (if OInd *kuca-* is indeed related) suggest that PIE form referred to the curve of a protuberance or hill. The Baltic forms meaning 'demon, devil' may reflect either an association between hills and otherworldly creatures (cf. OIr *síd* 'fairy mound', *āes síde* 'fairies') or an association between physical unattractiveness ('boil', 'hump') and evil character.

kleng- 'bend, turn'. [*IEW* 603 (**kleng-* ~ **klenk-*); Wat 31 (**kleng-*)]. Lat *clingō* 'gird', OFrench (< Gmc) *flenchir* 'turn aside, flinch', ON *hlekkr* 'ring, chain', *hlekkjast* 'be impeded' (< 'be fettered'?), NIce *hlekkja* 'put in fetters', OE *hlence* ~ *hlinc* 'link, chain of links, coat of mail (made of links or rings)' (> NE *link*), OHG *(h)lanka* 'hip', Lith *klénkti* 'goes fast', Latv *klencêt* 'limps', OCS *klęčǫ* 'kneel', TochA *klaṅk* 'mount, setting', TochB *kleṅke* 'mount, setting', *kläṅk-* 'doubt'. The semantic value of Latv *klencêt* 'limps' is explicable if the Old Norse form *hlekkjast* 'be impeded' expresses a notion of fetters. Distribution suggests PIE status.

k^{w}elp- 'arch'. [*IEW* 630 (**k^{u}elp-*); Wat 34 (**kwelp-*)]. ON *hvelfa* 'to arch', OE *hwealf* (noun) 'vault', *behwielfan* 'arch over', MHG *welben* 'to arch', Grk *κόλπος* (noun) 'fold, hollow', *κολπόω* 'billow'. The distribution suggests a word of the west and center of the IE world.

leng- 'bend'. [*IEW* 676 (**leng-*)]. Lith *linguoti* 'soar, hover', Latv *lĩguôt* 'swing, rock', Slov *lągāc* 'bend', Alb *lëngor* 'flexible', OInd *raṅgati* 'moves here and there', TochAB *läṅk-* 'hang' (< *'dangle'). Distribution suggests PIE status.

lenk- 'bend; traverse, divide'. [*IEW* 676–677 (**lenk-*); Wat 36 (**lenk-*); Buck 9.14]. ON *lyng* 'heather', *lengja* 'an oblong piece', *bak-lengja* 'dark stripe down the back of cattle', OE *mæst-lōn* 'pulleys at top of mast', *sceaft-lō* 'strap attached to shaft of a missile', Lith *leñkti* 'tilts, bends', Latv *liekt* 'bends, curves', OCS *raz-lǫčiti* 'to separate, divide', TochB *lenke* 'valley, cleft'. Distribution suggests PIE status.

lerd- ~ ***lord-*** '± crooked'? [*IEW* 679 (**lerd-*); Wat 36 (**lerd-*)]. ?ScotsGaelic *lorcach* 'lame', OE *be-lyrtan* 'to deceive, cheat', Grk *λορδός* 'stooped', Arm *lorc'-k'* 'twisted bodies'. The Armenian form is a hapax but seems to refer to physical deformity of some sort. The underlying form is uncertain.

leug- 'bend; bend together, entwine'. [*IEW* 685–686 (**leug-*); Wat 37 (**leug-*); Buck 9.14; BK 584 (**law-/*ləw-*)]. OIr *fo-long-* 'sustains, supports', Lat *luctō* 'struggle, wrestle', ON *lokkr* 'lock (of hair)', OE *locc* 'lock (of hair)' (> NE *lock*), OHG *loch* 'lock (of a hair)', Lith *lùgnas* 'flexible, pliable', Grk *λυγίζω* 'fold, bend', *λύγος* '*vitex agnus castus*, a kind of willow tree'. OE *loc* 'lock of a door' (> NE *lock*) (< 'a bending together, shutting' and, possibly, the Lat *luctō* 'wrestle' (< 'entwine limbs in a struggle') express the notion of 'entwining' while the Greek reference to the 'willow', a pliant tree whose branches were often twisted into containers, further supports this semantic field; if this semantic shade was present in the proto-language, then the meaning of the Old Irish form could be explained as

well since things that are entwined support each other.

***nem-** 'bend' (pres. ***németi**). [*IEW* 764 (**nem-*); Buck 9.14; BK 576 (**n^{y}im-/*n^{y}em-*)]. Wels *nant* 'valley', Gaul *nanto* 'valley' (Celtic < **n̥mto-* 'that which is bent'), Av *nəmaiti* 'bends', OInd *námati* 'bends, bows, submits oneself', TochAB *näm-* 'bend', TochB *räm-* 'bend, deflect' (with dissimilation of the two nasals). Cf. also the derivative **némes-* 'bowing': Av *nəmah-* 'honoring', *nəmaxya-* 'render homage', OInd *námas-* 'bow, obeisance, referential salutation, adoration (by gesture or word)', *namasyáti* 'shows honor'. The same phonological and morphological form is seen in Lat *nemus* 'sacred grove' and Grk *νέμος* 'sacred grove', and in a different morphological shape in OIr *neimed* 'sanctuary', Fris *nimidas* 'sacred groves', though whether these words belong here (as *'where one honors the gods') or not is unclear. Even without the 'sacred grove' set, this word's geographical distribution (from Ireland to the eastern margins of the IE world) would appear to guarantee PIE status.

***pel-** 'fold'. [*IEW* 802–803 (**pel-*); Wat 48 (**pel-*); GI 611 (**p^{h}el-*); Buck 9.15}. **-plo-* : OIr *dīabul* 'double', Lat *simplus* 'single', *duplus* 'double', ON *fel* 'belly, stomach' (< 'fold'), Goth *tweifls* 'doubt', Alb *palë* 'fold', Grk *πέπλος* 'material, cloth (worn by women and falling in folds)', *ἁπλόος* 'single', *διπλόος* 'double'; **pol-t-*, **pl̥-t-*: OIr *alt* 'joint', ON *falda* 'to cover one's head', *einfaldr* 'simple', OE *fealdan* 'to fold' (> NE *fold*), *ānfeald* 'simple', Goth *falþan* 'to fold', **ain-falþs* 'simple', OInd *puṭa-* (noun) 'fold'. The use of 'fold' to express the idea of multiplication, as seen in Lat *simplus, duplus*, etc., is quite straightforward: folding something in half "doubles" it. The distribution suggests PIE status.

***su̯e(n)g-** 'bend, swing'. [*IEW* 1047–1048 (**su̯eng- ~ *su̯enk-*); Wat 68 (**sweng(w)-*)]. OIr *seng* 'thin', ON *svangr* 'slim, slender, thin', OE *swancor* 'slim, flexible', *swingan* 'whip, strike, swing', OHG *swingan* 'swing' (< Gmc **sweng-*), OInd *svájate* 'embraces, clasps', perhaps TochB *suk-* 'hand over to', TochB *ṣūkäsk-* 'dangle' (i.e., 'let swing'). It is not certain that the Old Indic and Tocharian forms are cognate with the Irish and Germanic forms; if they are not, then the root is almost certainly a late, dialectal development in western Europe; otherwise, if the Old Indic and Tocharian forms are part of the cognate set, then there is a case for PIE status. The meaning 'thin' must have developed from the meaning 'flexible'.

***u̯eng-** 'bend; make a sudden veering motion'. [*IEW* 1148–1149 (**u̯e-n-g-*); Wat 76 (**weng-*)]. ON *vakka* 'to stray, wander about', OE *wincian* 'to blink' (> NE *wink*), *wancol* 'inconsistent', OHG *winchan* 'shake', OPrus *wīngiskan* (acc. sg.) 'trick', Lith *véngti* 'try to avoid', Alb *vang* 'felloe (of a wheel)', OInd *vāṅgati* 'limps'. The Old Indic form is questionable since it is unattested in texts; otherwise, the cognates are all found in western languages, suggesting the possibility of a late dialectal development. The semantics of the Germanic and Lithuanian forms suggest a motion which is sudden and which veers from a linear path.

?*u̯eik- 'bend a pliable object'. [*IEW* 1130 (**u̯eik- ~ *u̯eig-*); Wat 75 (**weik-*)]. Lat *vinciō* 'bind, tie', Lith *výkis* 'tape-worm', Latv *vīkt* 'bend, fold', Grk *εἴκω* 'yield, give way', OInd *vīci-* 'deceit (?)'; **u̯eig-*: ON *vīkja* 'bend, turn', OE *wice* 'wych elm'. The relationship between the Germanic forms with final **-g-* and the other forms with final **-k-* is unclear. Also, the meaning 'of deceit' (? < 'bent') for the Old Indic form is not accepted by many.

??*su̯e(i)- 'bend'. [*IEW* 1041 (**su̯ĕ(i)-*); Wat 68 (**swei-*)]. OIr *sel* (noun) 'turn', Wels *chwid* (noun) 'turn', ON *svaða* 'to slip', OE *swaðian* 'swathe' (> NE *swathe*), MHG *swade* 'swathe', Grk *σῑμός* 'snub-nosed'. The semantic grounds for associating these stocks is extremely implausible.

See also CIRCLE; CROOKED; CURVE; ELM; VALLEY. [M.N.]

Further Reading

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BERRY

***h$_a$ógeh$_a$-** '± berry, fruit'. [cf. *IEW* 773 (**ōg-*); Wat 45 (**ōg-*); GI 558; Buck 5.76]. Lith *úoga* 'berry', Latv *uôga* 'berry', OCS *(j)agoda* 'fruit, berry', Rus *jágoda* 'berry' (the Baltic and Slavic forms show long vowels because of the regular lengthening of any vowel in these stocks before a PIE voiced stop), TochAB *oko* 'fruit; result'. Probably also belonging here are NIr *airne* 'sloe', Wels *eirin(en)* 'plum' (both < **agrīnu̯ā-*), *aeron* (< **agron-*) 'fruits, berries', Bret *irin* 'sloe', ON *akarn* 'fruit of wild trees', OE *æcern* 'nut, mast of trees' (> NE *acorn*), Goth *akran* 'fruit, result' (< Gmc **agron*), NHG *buch-eckern* (< **-agren-*) 'beechnut'. Finally, it may be that the underlying verb survives in Arm *ačem* (< **h$_a$egie/o-*) 'grow'. All of these words taken together is evidence for a pan-IE lexeme; **h$_a$ógeh$_a$-* by itself is central and eastern in its distribution.

***h$_x$óiu̯o/eh$_a$-** '± berry, fruit'. [*IEW* 297 (**ei-*); cf. Wat 45 (**ōg-*); GI 541 (**oi-wo-*); Buck 5.76]. Lat *ūva* '(bunch of) grapes, bunch of (other) fruit or flowers', Grk *ὄα* (< **h$_x$oiu̯eh$_a$-*) 'service-tree (*Sorbus domestica*)', *ὄον* 'service-berry', Arm *aygi* (< **h$_x$oiu̯ii̯eh$_a$-*) 'grapevine'. At least a word of the west and center of the IE world. Perhaps from a **h$_1$ei-* '± red' (because of the red or purplish color of the berries involved) and so ultimately related to **h$_1$eiu̯os* 'yew'.

?*sróh$_a$gs (gen. ***sr̥h$_a$gós**) '± berry, fruit'. Lat *frāga* (pl.) 'strawberries', Grk *ῥώξ* (gen. *ῥωγός*) ~ *ῥᾱ́ξ* (gen. *ῥᾱγός*) from an earlier paradigm *ῥώξ* (gen. *ῥᾱγός*) 'grape, berry'. Geographically much more restricted than the previous words but one that is archaic in shape. Possibly a late IE word.

See also FOOD; MULBERRY; PLANTS; WINE; YEW. [P.F., D.Q.A.]

BETWEEN

***h$_1$entér** 'into, between'. [*IEW* 313 (**enter*); Wat 17 (**en-ter*); BK 432 (**in-/*en-*)]. OIr *eter* 'between, among', OWels *ithr* 'between', Lat *inter* 'between', OHG *untar(i)* 'between', OCS *ǫtrĭ* 'inside', Alb *ndër* 'between, among', Av *antarə* 'within,

between', OInd *antár* 'between'. From *h_1*en* 'in'.

See also ADPREPS. [D.Q.A.]

BEYOND

***$h_a$elnos** 'beyond, yonder'. [*IEW* 24–25 (**al-*); Wat 2 (**al-*); Buck 13.13; BK 431 (**ul-*/**ol-*)]. OIr *oll* 'ample (over)', OLat *ollus* 'that one', Lat *uls* 'beyond', ON *allr* 'all', OE *eall* 'all' (> NE *all*), OHG *all* 'all', Goth *alls* 'all', OCS *lani* 'in the past year'; perhaps also Lith *aliái* 'all'. This element also appears in the names of Celtic matrons such as *Ala-teivia, Ala-gabiae*, etc.

The root is especially concentrated in the Germanic languages, though extended forms from PIE *h_a*éli̯os* 'other' are also found, e.g., OIr *aile* 'other', Lat *alius* 'other', Goth *aljis* 'other', OE *elles* 'in another manner' (> NE *else*), Grk ἄλλος 'other', Arm *ayl* 'other', TochA *āla-k* 'other', TochB *alye-k* 'other'. The distribution supports PIE status.

See also ADPREPS. [A.D.V.]

BIND

bhendh- 'bind'. [*IEW* 127 (**bhendh-*); Wat 7 (**bhendh-*); Buck 9.16; BK 26 (**bin^y-*/**ben^y-*)]. ON *binda* 'to bind', OHG *bintan* 'to bind', Goth *bindan* 'to bind', Lith *beñdras* 'companion', Grk πεῖσμα 'rope, cord', πενθερός 'father-in-law', Av *bandayeiti* 'binds', OInd *badhnā́ti* (< **bhn̥dh-*) 'binds', *bándhu-* 'kinsman; connection, kinship'. This root is securely reconstructible to PIE. The nominal forms in Lithuanian, Greek and Old Indic suggest that the Indo-Europeans metaphorically conceived of familial and social relationships as 'binding' people together.

deh$_1$- 'bind'. [*IEW* 183 (**dē-*); Wat 10 (**dē-*)]. Alb *duaj* (pl.) 'sheaves', Grk δέω 'bind', OInd *dyáti* 'binds'. Attested in only a small number of languages that tend to show regular isoglosses suggests that this may be a late IE dialectal form.

$h_2$ep- 'fasten, join'. [cf. *IEW* 325 (**ēpi-*); Puhvel 3:114]. Lat **apere* 'attach', *aptus* 'fitted to; appropriate, fitting', *cōpula* (< **co-apula*) 'bond', Hit *happ-* 'join, attach'. Derivatives include Hit *happessar* 'limb', *hapittala-* (< *h_2*p-e-tlo-*) 'member', TochA *āpsā* (pl.) 'limbs'. Perhaps also belonging here are Grk ἤπιος 'gentle, kind, soothing, friendly', OInd *āpí-* 'ally, friend, acquaintance', *āpitvám* 'friendship, confederation', *ā́pyam* 'confederation, alliance, friendship' if from (late) *h_2*ēpís* '± confederate'.

ghedh- 'join, fit together'. [*IEW* 423 (**ghedh-*); Wat 21 (**ghedh-*); GI 133 (**g^{h}ed^h-*); BK 221 (**gad-*/**gəd-*)]. Fris *gadra* 'unite', OHG *bigatōn* 'come together', OE *togædere* 'together' (> NE *together*), Lith *guõdas* 'honor, respect', OCS *godŭ* 'appointed time', OInd *gádhya-* 'what one readily holds fast, what suits one'; **ghōdh-*: ON *gōðr* 'good', OE *gōd* 'good' (> NE *good*), Goth *gōþs* 'good, kind, beautiful'. The root is solidly reconstructible to PIE. Traces of the meaning 'be appropriate, be fitting' may be found in the Slavic and Indic forms and this metaphor must be the source of the meaning 'good' in Germanic.

i̯eu- 'bind, join together'. [*IEW* 508–509 (**i̯eu-*); Wat 79 (**yeug-*); GI 625 (**i̯eu̯-k'-*); Buck 12.22]. Lith *jáutis* 'ox, steer' (< 'that which is yoked'), Latv *jūtis* 'fork in a road, separation', OInd *yáuti* 'binds, unites'; **i̯eu-g-* 'join together, yoke': Lat *jungō* 'harness, yoke', Lith *jùngti* 'yoke', Grk ζεύγνῡμι 'harness, join together', OInd *yunákti* 'harnesses, yokes'. The extended form **i̯eu-g-* is more widely attested that the root **i̯eu-* but both are solidly reconstructible to PIE.

$h_2$emĝh- 'tie, constrain'. [*IEW* 42 (**anĝh-*); Wat 2 (**angh-*); GI 60; Buck 9.16; BK 379 (**ħan-ag-*/**ħən-ag-*)]. Lat *angō* 'tie up, draw close, press, squeeze; throttle', OCS *ǫžǫ* 'constrain', Grk ἄγχω 'tie together', Hit *hammenk-* (< *h_2*m̥neĝh-*) 'tie; betroth', Av *ąz-* 'hem in'. Widespread and old in IE.

dherĝh- 'bind fast'. [*IEW* 254 (**dherĝh-*)]. Lith *dir̃žti* 'be tough, hard', *dir̃ža* 'belt, girdle', Av *darəzayeiti* 'fetters, binds fast', OInd *dŕ̥hyati* 'is strong, fast'. The Lithuanian nominal form and the Indic form support reconstructing the meaning 'bind fast' for this cognate set.

peh$_a$ĝ-* ~ *peh$_a$k̂- 'fasten securely'. [*IEW* 787–788 (**pāk̂-* ~ **pāĝ-*); Wat 46 (**pag-* ~ **pak-*); GI 123 (**p^{h}ak^h-* ~ **p^{h}ak'-*)]. Lat *pangō* 'drive in', ON *fā* 'capture', OE *fōn* 'capture', *fēgan* (< **pāk̂éi̯e/o-*) 'join, bind, unite', OHG *fāhan* 'capture', Goth *fahan* 'capture', Grk πήγνῡμι 'plant, make solid', OInd *pāśáyati* 'binds'. Perhaps one might also add Lat *pāx* 'peace' (< *'a binding together by treaty'), *pacīscī* 'agree', *pāgus* 'district, province; country (as opposed to the city)' (< *'boundary staked out on the ground'). The variation in the voicing of the root-final consonant (*-*ĝ* ~ *-*k̂*), which may also be observed in other examples, e.g., **peiĝ-* ~ **peik̂-* 'draw, color', may find its origin in the athematic paradigm such as 1st sg. **péh$_a$ĝmi*, 1st pl. **ph̥$_a$ĝmés*, but 3rd sg. **péh$_a$k̂ti*, and 3rd pl. **ph̥$_a$ĝénti* ~ **ph̥$_a$k̂énti*. The Latin and Germanic forms point to the presence of a nasal infix; the Greek forms show the suffix *-nu-*. The Old Indic verb is a denominative based on the noun *pā́śa-* 'following the track of blood' (with *span-* 'dog, bloodhound').

seg- 'fasten'. [*IEW* 887–888 (**seg-*); GI 134 (**sek'-*)]. OIr *sūainem* 'cord, lace', Lith *sègti* 'fasten, buckle', Latv *segt* 'cover', OCS *sęgnǫti* 'take, grab', Av *vohuna-zga-* 'snare', OPers *frā-haj-* 'hang up', OInd *sájati* 'attaches, fixes'. Distribution suggests PIE status.

mer- 'braid, bind'. [*IEW* 733 (**mer-*); Wat 42 (**mer-*); BK 531 (**mur-*/**mor-*)]. ON *merðr* (with dental extension) 'fish basket', MDutch *marren* 'tie', MLG *mōren* 'tie' (borrowed > NE *moor*), Grk μέρμῑς 'thread, cord'; **mergh-*, **mregh-*, **mrogh-*: OIr *brāga* 'prisoner', Lith *márška* 'linen, bedsheet', OCS *mrěža* 'net, running knot', Grk βρόχος 'lace, knot'. There is some doubt whether the Greek form belongs here; if it does not, then a late northwestern dialectal term.

(h_2)u̯er- '± attach'. [*IEW* 1150 (**u̯er-* ~ **su̯er-*); Wat 76 (**wer-*)]. Lith *vérti* 'thread (a needle)', Latv *vērt* 'thread', OCS *vŭvrěti* 'push in, drive in', Rus *verátĭ* 'prick', Alb *vjerr* 'hang up', Grk ἀείρω 'attach; lift up, suspend'. It is debatable whether the Greek form belongs with this set; if not, then there is no reason to reconstruct the initial laryngeal nor to

assume anything other than late dialectal status.

kergh- 'bind'. [VW 206]. Lith *ker̃gti* 'tie, bind', TochAB *kärk-* 'bind'. The Lithuanian form necessitates a PIE **kergh-* rather than **kerg-* since the latter should have had Proto-Baltic lengthening by Winter's Law. The agreement of Baltic and Tocharian at least suggests late PIE status for this word.

See also VALLEY; YOKE. [M.N., D.Q.A.]

BINDER-GOD

The concept of a binder-god was treated extensively by Mircea Eliade, who devoted a whole section of his *The Sacred and the Profane* to the topic. It originated in the notion that the Vedic god Varuṇa puts trespassers in bonds, striking them with dropsy. Georges Dumézil devoted one of his early works to the alleged correspondence between the Greek sky-god *Οὐρανός* 'heaven, sky' and the OInd (Vedic) *Váruṇa;* both names derived, according to him, from an IE root **u̯er-* 'bind', hence the underlying notion of both deities was the concept of one who bound others (in their power). But this hypothesis led into inextricable complications as regards the Greek term which looks to be a phonological development of an earlier **u̯orsanó-*. It has, therefore, been abandoned, and *Váruṇa,* whose name is susceptible to many interpretations, is currently linked with the root **u̯er-* 'speak' (cf. Lat *verbum* 'word', NE *word*) as the master of the sacred word or formula while Grk *Οὐρανός* belongs with OInd *varṣá-* 'rain', hence **u̯orsanós* 'rain-maker'. There are thus no linguistic grounds for attributing a binder-god to PIE antiquity, at least on the basis of comparative linguistics.

A genuine binder-god is the *regnator omnium deus,* mentioned by Tacitus (*Germania* 39) as residing in the sacred grove of the Semnones. He has been identified in turn with *Tȳr, Ōðinn* or a trinal, eponymic deity **Semno;* whoever he may be, no one is supposed to penetrate into the sanctuary unfettered (*nisi vinculo lignatus*). It is therefore reminiscent of the Eddic *Fjöturlundr* in the second lay of Helgi Hundingsbana.

See also PRIEST. [E.C.P.]

Further Readings

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BIRCH

bherh$_x$ĝos 'birch (*Betula pendula*)'. [*IEW* 139–140 (**bhérəĝ-s*); Wat 7 (**berəg-*); GI 531–533 (**b^{h}erHk̂'-*); Fried 26–31; BK 16 (**bar-/*bər-*)]. Lat *farnus/fraxinus* 'ash', ON *bjǫrk* 'birch', OE *beorc* 'birch' (> NE *birch*), OHG *bir(i)hha* 'birch', OPrus *berse* 'birch', Lith *béržas* 'birch', Latv *bẽrzs* 'birch', Rus *berëza* 'birch', Oss *bærz* 'birch', OInd *bhūrjá-* 'birch'. The Germanic, Baltic and Slavic words all derive from **bhérh$_x$ĝos*; however, the Latin form is a derived adjective with zero-grade of the root, i.e., **bhr̥h$_x$ĝ-s-i-no-* and Old Indic represents a **bhr̥h$_x$ĝós*. Ossetic is ambiguous as to the original root-syllable vowel.

The name for the birch tree, a traditionally basic component of the PIE vocabulary, is excellently attested in at least six stocks from Europe to Asia. The Italic, here, Latin, reflex *fraxinus* shifted to 'ash' (still our Linnaean term today). This extreme shift, like the total loss of any reflex in Greek, was possibly due to the relative scarcity of the birch in Mediterranean climes, except in the highlands—but the ecological argument fails for Celtic and Armenian since the tree in question is present in Britain, Ireland and Armenia. In Celtic the words for 'birch' (OIr *beithe*, Wels *bedw(en)*, Bret *bezv(en)*) are all derived from **g^{w}étu* 'pitch'. Otherwise, the correspondences are fairly regular in Germanic and Slavic where all refer to the tree. Given the regular correspondence for the initial *bh-*, the medial *r*, the final *ĝ* and a full vowel in the root (with Old Indic indicating a laryngeal), and four stocks exhibiting a feminine gender, we can posit a feminine *o*-stem as above. Apparently related forms in five stocks strongly suggest an etymological or at least folk etymological or associational relation to the idea of 'bright, white, brilliant, shine' and the like. For example, in Iranian we have Oss *bærz* 'birch' but Av *braz-* 'to shine' or in Germanic there is ON *bjǫrk* 'birch' and *bjartr* 'bright', OHG *bir(i)hha* 'birch' and *beraht* 'bright'. More compelling is the fact that the 'birch' term in Baltic, Slavic and Germanic is feminine, not only in grammatical gender, but in lexical substitution ('she') and cultural-mythological symbolism. The birch was a symbol for the feminine and specifically for young, virginal femininity in PIE times (as it still is today in all the northern stocks and indeed Finno-Ugric and Palaeosiberian languages). Gamkrelidze and Ivanov have suggested that the concept of 'purity' is so closely associated with the name of the 'birch' that Hit *parku-* 'ritually pure; innocent' may be derived from the name of the 'birch' and provides secondary testimony of the existence of the arboreal term in Anatolian. Such a connection is possible but by no means certain.

The archaeological contexts for the birch in Eurasia are many and varied. Birch bark, of course, was widely employed for the manufacture of containers and as insulation or flooring material or outright construction of houses. Birch tar was also the universal cement utilized in prehistoric times, e.g., birch gum was employed to fix flint arrowheads on their shafts or axes in their sleeves which helps explain the presumed replacement of the word for this tree in the Celtic languages by a term meaning 'pitch'. Finally, birch fungi was credited with medicinal properties, and because of its hallucinogenic effects, was used by Siberian shamans and perhaps by early Indo-Europeans as well.

There are four main species of the birch in Europe which range from *Betula pendula* which can stand up to 30 meters high to *Betula humilis*, a lowland shrub found largely in wetland environments. Tolerant of poor soils, the birch was one of the first trees to spread over most of Europe where subsequently it was replaced by later trees (oak, etc.). Nevertheless, at *c* 6000 BC the birch could be found from

Ireland in the west across Eurasia. Areas where it is not found would seem to have been limited to Italy south of the Alps and southern Greece. In no subsequent period does birch seriously penetrate Italy which supports the suggestion that Lat *fraxinus* 'ash' is the result of a semantic shift by IE populations who settled in a relatively birch-less Italy. *Betula* has been recorded from lake sediments in southwest Anatolia, across the European steppe and also in Kazakhstan where there are also abundant archaeological contexts for birchwood in the Andronovo culture which has long been regarded as ancestral to at least some groups of Indo-Iranian languages. Although PIE arboreal terminology is very poorly reflected in Indo-Iranian, the terms for 'birch' are very well attested, e.g., Khot *brāṃja-* 'birch', Wakhi *furz* 'birch', Shughni *bəruǰ* 'birch', and the distribution of the birch extends at least into northwest India. This wide distribution for the birch suggests that it cannot be seriously employed in delimiting the homeland of the IE language family.

See also SHINE; TREES. [P.F.]

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BIRD

h₂eu̯ei- (nom. ***h₂éu̯is***, gen. ***h₂u̯éis***) 'bird'. [*IEW* 86 (**au̯ei-*); Wat 4 (**awi-*); GI 454–455 (**Hwei-*); Buck 3.64]. Wels *hwyad* 'duck', Lat *avis* 'bird', Umb (acc.) *avif* 'bird', Alb *vida* 'dove', Grk *αἰετός* 'eagle', Arm *haw* 'bird, chicken', Av *vīš* 'bird', OInd *ví-* 'bird'. Despite the occasional semantic shifts to a particular species, the widespread distribution and similarity to **h₂ō(u̯)iom*, the root indicating 'egg', suggests that this is the probable general term for 'bird' in PIE.

pipp- 'young bird, nestling'. [*IEW* 830 (**pīp(p)-*); Wat 51 (**pipp-*)]. Slov *pípa* 'hen', Alb *bibë* 'young aquatic bird', Grk *πῖπος* 'young bird', OInd *píppakā* 'a type of bird'. To this may be added Lat *pipō* 'peep (of a nestling)'. The term is surely onomatopoeic but it does provide a standard IE term.

See also ANIMALS; BIRD CRY; BIRDS; EGG. [J.A.C.G.]

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BIRD CRY

kla(n)g- 'scream (of birds)'. [*IEW* 599–600 (**klēg-*); Wat 31 (**kleg-*)]. Lat *clangō* 'cry (of birds)', ON *hlakka* 'cry of eagle', Lith *klagėti* 'cackle', Latv *kladzêt* 'cackle', Grk *κλάζω* 'resound', *κλαγγώδης* 'shout, scream (of people and birds), bark or bay (of dogs)'. At least a word of the west and center of the IE world.

?*kau(k)- 'cry out; cry out as a bird'. [*IEW* 535–536 (**kău-*); Wat 27 (**kau-*)]. From **kau-*: Wels *cuan* 'nightowl', Late Lat *cavannus* 'nightowl', OHG *hūwo* 'owl', Rus *kávatĭ* 'cough loudly', Grk *κήξ* (< **kawak-*) '± tern', OInd *káuti* 'cries out'; from **kauk-*: Lith *kaukiù* 'howl', *kaukỹs* 'a bird whose cry was said to foretell a good harvest of flax', Latv *kàukt* 'howl', Grk *κωκύω* 'cry, lament', Arm *k'uk'* 'sighing, groaning', OInd *kokūyate* 'cries out', *kóka-* 'a kind of goose'. Cf. ME *hūlen* 'howl' (> NE *howl*), OHG *hiuwilōn* 'shout with joy'. Though it is not certain that all the words listed here are related, the distribution may suggest PIE status for this word.

?*ker- '± caw'. [*IEW* 567 (**ker-*); Wat 29–30 (**ker-*); GI 457 (**k'er-*)]. Lat *corvus* 'raven', Czech *krákorati* 'cackle', Grk *σκορακίζω* 'dismiss contemptuously', *κόραξ* 'raven', OInd *karaṭa-* 'crow'. An onomatopoeic formation, perhaps of PIE age.

?*ul- '± howl, hoot'. [*IEW* 1105 (**ul-*); Wat 72 (**ul-*)]. Lat *ululāre* 'howl', Lith *ulūlóti* 'shout hello', Grk *ὑλάω* 'bark', OInd *ulūlú-* 'ululating'. Cf. Late Lat *uluccus* '(screech) owl', OInd *úlūka-* 'owl'. Given the divergence of meaning, these verbs probably represent independent onomatopoeic formations. The agreement of Latin and Old Indic in the words for 'owl', however, is striking.

See also ANIMAL CRY; CROW; NOISE; OWL. [D.Q.A.]

BIRDS

The IE people had a large number of bird names, about forty of which have come down to us, surviving in the oldest written dialects, such as Hittite, Old Indic and Greek, and in the numerous other dialects that came later. In their pre-Linnaean minds, these IE tribes grouped birds together in a way which would puzzle us, for the combinations seem odd. In early Indic culture, the swan and goose were seen as one and the same, or at least variants of the same, and were called by a single word *haṃsá-*, no doubt linked together because of the birds' long necks and white bodies. Yet one was a domesticated bird, the other less so. But there were probably secondary terms to modify *haṃsá-* that were added to the root. Though we do not know what modifying term separated the swan-*haṃsá-* from the goose-*haṃsá-*, we do have a special Indic *haṃsá-* that, in the *Rāmāyaṇa*, was called the *kala-haṃsá-*, literally the 'speechless swan', and this might be a reference to our mute swan, though we can only guess. There were other clusters of roots that would have us suspect that Indic *haṃsá-* was regarded as a heron as well. In other IE languages we find that the eagle and the gull were related, as elsewhere the loon and falcon. Though these perceptions seem incongruous today, we would easily be able to understand such ancient groupings as there are for PIE **ker-*, which links variously the crow, raven, grackle, jackdaw, blackbird and even the starling, birds black in color. Or we would have a group linked by the term 'sparrow' which would stand for the small birds from chickadee to finch to warbler.

Not only is it apparent that the Indo-Europeans perceived different groupings of birds under one name but the dialects which inherited the IE proto-form would frequently see fit to change the semantic value of the words. Thus, in some IE dialects, an inherited term for 'owl' would yield a later 'jackdaw', the 'eagle' would become a 'kite', and the

'woodpecker' a 'jay'. So pervasive was this switching of designations that we have only four bird names from IE which have survived with the same semantic value in five or more IE stocks: PIE **ger-* 'crane', **ĝhan-s* 'goose', **$h_3$er-* 'eagle', **$h_a$enh$_a$t-* 'duck'. Thus the reflexes of **ĝhan-s* are seen in Celtic, Italic, Germanic, Baltic, Slavic, Greek, Iranian and Indic. The 'duck', under the root **$h_1$enh$_a$ti*, is preserved in Italic, Germanic, Baltic, Slavic, Greek and Indic. The 'crane', surely a bird of commanding appearance, is known from the root **ger-* in Celtic, Italic, Germanic, Baltic, Greek, Armenian and Iranian, and **$h_3$er-* as 'eagle' in Celtic, Germanic, Baltic, Slavic and Hittite.

There are considerably more IE bird names which have been maintained with the same semantic load in two to four stocks. These are the 'blackbird' (Celtic, Italic, Germanic), 'capercaille' (Germanic, Baltic, Greek), 'coot' (Italic, Germanic, Greek), 'falcon' or 'hawk' (Italic, Germanic, Slavic), 'jackdaw' (Baltic, Slavic), 'jay' (Italic, Germanic, Greek), 'kite' (Greek, Armenian), 'magpie' (Baltic, Slavic), 'owl' (Celtic, Germanic), 'pheasant' (Slavic, Iranian [perhaps a loan]), 'quail' (Greek, Old Indic), 'starling' (Italic, Germanic), 'stork' (Germanic, Armenian [perhaps a loan], Hittite), and 'thrush' (Italic, Germanic, Baltic, Slavic).

There is also a small body of IE birds which have no ornithological cognate in another IE dialect. Rather, they were individually derived from various IE roots, such as the root meaning 'to make a raucous sound', or a color term 'white', or the like. Into this category fall the 'dove', 'pigeon', 'finch', 'sparrow', 'vulture' and 'gull'. A final category contains onomatopoeic terms which are not inherited from PIE, since, lacking pertinent sound shifts, they must be originally onomatopoeic in the individual IE languages. Here we note **k̑er-*, **kor-*, **kr̥-*, etc., a proto-form for 'crow', which has largely (though not completely) been renewed in each of the IE dialects. The terms for the 'cuckoo' and 'hoopoe' have been similarly unaffected by sound shifts and point to independent onomatopoeic re-creation.

The continuation of bird names from PIE was in other ways chaotic. There is no term for the 'dove' or 'pigeon' in any two stocks that has the same phonetic origin, although all the IE languages do indeed have words for those two common birds. Albanian has *vida* but from the PIE root **$h_a$eu̯ei-* 'bird' which produced both the generic term for 'bird' in Lat *avis* and 'eagle' in Grk *αἰετός*.

It is quite reasonable that the earliest Indo-Europeans would retain a common word for 'goose' and 'duck', as both were widely exploited in the wild state and were subsequently domesticated; and surely the crane is a bird of strong impression—its lofty size, its forlorn cry and great stilted legs are the stuff of folklore that is continued in the literature of the various IE dialects, even though some abandoned the inherited **ger-* and replaced it with a different term.

One might wish to compare the principal birds of the Indo-Europeans with those of a living "pre-scientific" people. By principal bird is meant a bird name that is not a compound such as OInd *kala-haṃsa-*, and by "pre-scientific", one might select someone such as the Tzeltal Indians from the central highlands of the Mexican state of Chiapas. We know of no IE attempt at taxonomy until we come to the efforts of Aristotle who sought comparative features. This grouping by Aristotle survived until the eighteenth century when Linnaeus began a process of combinations that has survived till this day, though with continual modifications. A comparison of the groups implied by the Tzeltal's naming processes with those groups implied by the association of names in the IE stocks is, instructive. In IE we find domesticated birds such as 1) the goose; and 2) duck, itself further linked to wild ducks, grebes and teals; 3) vultures of many kinds; 4) game birds such as the quail and capercaille; 5) birds of prey such as the eagle, hawk and falcon; 6) pigeons and doves; 7) corvoid birds, black in color, such as the crow, raven, jackdaw, blackbird, and starling; 8) owls; 9) the hen and cock; 10) the passeriforms, which seem to include most any small birds, e.g., sparrow; 11) the swan; 12) the stork; and 13) the woodpeckers.

The IE series can be compared with the Tzeltal bird names where the birds can be largely grouped on the basis of an active noun root to which are added frequent modifiers. These yield: 1) water birds, such as the duck, grebe and shorebirds; 2) vultures; 3) birds of prey—eagle, hawk, kestrel; 4) the turkey, including the jay(!) and chicken; 5) the quail, including the tinamou and road-runner; 6) the dove and pigeon; 7) the owl; 8) nightjay; 9) the swift and swallow; 10) the parrot; 11) the woodpecker; 12) the flycatcher; 13) the thrush, including the bluebird; 14) warblers, including the siskin and vireos; 15) the sparrows, including the towhee, grosbeak, tanager; and 16) the blackbirds, including the cowbird, raven, grackle, but no true crow as they are not found in Chiapas.

There are in Tzeltal far more identified birds than these, some with their own unique, uncompounded name, and others with modifiers of an avian root: thus 'white duck', 'large duck', and 'feather bird', 'buttock bird', 'forest hawk' and 'streaked woodpecker'. Thus we can get a lot closer to an inventory of the birds as understood by Tzeltal culture since their language yet lives than we can recover an inventory of the PIE birds where most of the compounds have been lost and the terms have permutated in the literary dialects.

But we do notice a certain similarity in perception from the basic grouping of bird constellations in IE with that of the Tzeltal culture, and further note that in some areas it does correspond to the Linnaean system. Similar results can be found from such distant cultures as the Maori of New Zealand and the Mohawk Indians of New York State.

In all, we have for the Indo-Europeans almost twenty classes of birds (this number should not be considered firm for there are many ways one can argue for groupings and spectrum, but it should be roundly acceptable), and about thirty-five to forty names that can be shown to designate IE birds. Yet in most languages of western Europe, we now have names for every bird that can be seen, and even names for

some that are extinct, and certainly, for any given area of the early Indo-Europeans, there are far more terms than those which existed during the Neolithic period. This later diversity was arrived at in a straightforward way. As the IE speakers separated from their original source or each other, they encountered non-IE cultures, and frequently adopted new words from their neighbors and added them to their own inventory. Correspondingly, they would either abandon the inherited PIE word that had just been replaced by the substratum term, or they would use that for another bird they considered similar. Thus the preliterate Armenians abandoned their inherited word for 'goose', **jan*, and replaced it with *sag*, taken from an unknown people living in western Asia. The Greeks acquired *κόλυμβος* 'dove' from a language unknown. And the English, having dropped the IE term for 'bird', **h₂eu̯ei-*, in the Proto-Germanic period, then also abandoned, during the Anglo-Saxon period, the Germanic form *fugal* (which survives somewhat with restricted use as 'fowl'), and replaced it with 'bird' in the ninth century from a source unknown. In addition, though the IE dialects might have a common word for 'crow', built on a root approximating **kro-* or **kor-*, this word did not pass through any of the particular sound shifts to produce NE *crow*. Rather, it developed into OE *hrōc* 'rook', and NE *crow* was re-invented yet again through onomatopoeia in that language. Similarly, the onomatopoeic term for 'cuckoo' and 'hoopoe' remained impervious to sound shift, and passed through the dialects as possibly did **bu-* for 'owl'.

The IE bird terminology thus shows us, under reconstruction, nothing that significantly distinguishes its prehistoric naming-culture from that of any other such people. They knew what they had to know to communicate about food, to communicate about what was ritualistically important, to protect their flocks from avian predators, and to mention what amazed and delighted them. The reconstructed roster of IE bird names does not indicate any specific location in Eurasia for their origin as the various species that are strongly attested can be found over most of Eurasia and certainly over the territories of any of the competing solutions to the IE homeland problem. As far as the purely lexical evidence is concerned, the Indo-Europeans developed an ornithological taxonomy that was little different from those of any other pre-scientific people.

See also BIRD; BIRD CRY; BLACKBIRD; COCK; COOT; CRANE; CROW; CUCKOO; DOVE; DUCK: EAGLE; EGG; FALCON; FINCH; GAMEBIRD; GOOSE; GULL; HEN; HERON; HOOPOE; JACKDAW; JAY; KITE; MAGPIE; NEST; OWL; QUAIL; SPARROW; STARLING; STORK; SWAN; THRUSH; VULTURE; WING; WOODPECKER. [J.A.C.G.]

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BISHKENT CULTURE

The Bishkent (*aka* Beshkent) culture is a Late Bronze Age culture (*c* 1700–1500 BC) situated in southern Tadzhikistan. It is primarily known from its cemeteries which appear to have been used by mobile pastoralists. Ceramics are generally hand-made rather than wheel-made; the metal objects are often of types to be found among the Andronovo culture of eastern Kazakhstan, and some have regarded the Bishkent culture as a local Andronovo variant. There is also some evidence for contacts with the more settled BMAC of north Bactria as some wheel-made pottery is also known. Material from the cemetery at Tandriul, for example, is typical of the BMAC (Sapalli culture). Prominent among the Bishkent sites is the cemetery of Tulkhar, which yielded about eighty burials. Although there were some cremation burials, most of the evidence was comprised of inhumations. Sexual dimorphism was observed with males placed on their right sides and females on their left (similar practices are known from the Corded Ware culture of central and eastern Europe and the more proximate Tazabagyab and Vakhsh cultures of Central Asia and the Swāt culture of Pakistan). The males buried at Tulkhar were accompanied by rectangular hearths reminiscent of the rectangular fire-altar (*āhavanīya*) of the Indo-Aryan priest while women were associated with round hearths, the shape commonly ascribed to the *gārhapatya*, the domestic and hence female-associated hearths of the Indo-Aryan house.

The Bishkent culture has also been seen as a possible contributor to the Swāt culture which in turn is often associated with early Indo-Aryan movements into northwest India.

See also ANDRONOVO CULTURE; BMAC; FIRE CULT; SWĀT CULTURE; VAKHSH CULTURE. [J.P.M.]

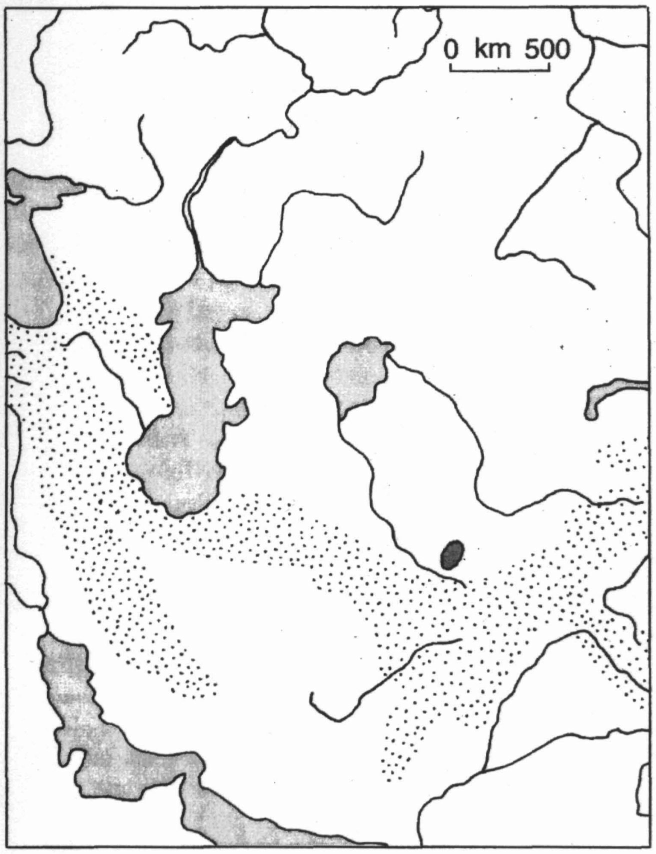
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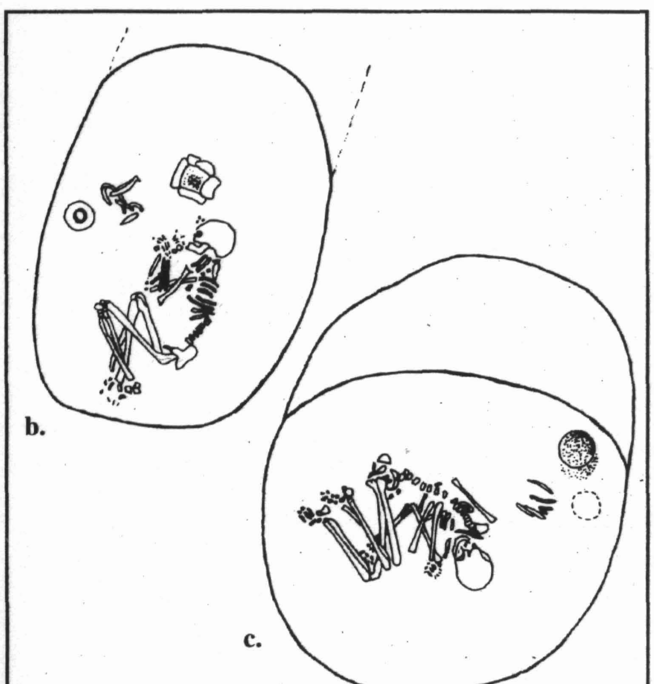
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BITE

****denk̂-*** 'bite'. [*IEW* 201 (**denk̂-*); Wat 11 (**denk-*); Buck 4.58]. ON *tǫng* 'tongs, pincers', OE *tang(e)* 'tongs, pincers' (> NE *tong(s)*), OHG *zanga* 'tongs, pincers', Alb (Gheg) *danë* (Tosk *darë*) 'tongs', Grk *δάκνω* 'bite', Av *tiži-dąstra* 'having a sharp bite', *tiži-dąsura* 'having a sharp bite', OInd *dáśati* 'bites', probably TochB *tsāk-* (pres. *tsāknā-*) 'bite (as of a snake)'. The root vowel of the Tocharian form must be analogical in some fashion but the meaning is certainly a good fit and the



Bishkent a. Distribution of the Bishkent culture.



Bishkent b. Tulkhar cemetery (nr. 23), male grave with rectangular hearth, sheep bones, knife, and pot; c. Tulkhar (nr. 30), female grave with round hearth, sheep bones and fragments of a vessel.

nasal present corresponds to that of Greek. PIE status assured. *See also* EAT; TOOTH. [M.N.]

BITTER

***h$_2$em-ro-s** 'bitter, sour'. [*IEW* 777–778 (**om-*); Wat 46 (**om-*); GI 551 (**om-/*m̥-*); Buck 15.37; BK 385 (**ħam-/*ħəm-*)]. Lat *amārus* 'bitter', ON *apr* 'sharp, hard, cold', OE *ampre* 'sorrel, dock', OHG *ampfaro* 'sorrel, dock', Alb *ëmbël* 'sweet', (Tosk) *tëmbël* 'gall', Arm *amokʻ* 'sweet', OInd *amlá-* 'sour'. Possibly Lith *āmalas* 'mistletoe', Latv *amu(o)ls* 'wood-sorrel, clover'. From **h$_2$em-* 'raw, bitter'. Well attested with considerable, though straightforward, semantic developments across numerous dialects, in the northwest as a botanical term while semantic shifts to 'sweet' are found in Armenian and both meanings are attested in Albanian.

sū-ros** (suh$_x$-ros**) 'sour, acid, especially of liquids or cheese' (< 'raw, moist'). [*IEW* 1039 (**sūro-* ~ **sou-ro-*); Wat 67 (**sūro-*); Buck 15.38]. ON *sūrr* 'sour', OE *sūr* 'sour' (> NE *sour*), OHG *sūr* 'sour', OPrus *suris* 'cheese', Lith *sūras* 'salty', Latv *sūrs* 'salty, bitter', OCS *syrŭ* 'wet', Rus *syrój* 'damp, moist, raw'. A northwesternism, presumably in late IE.

See also BEER; COLD. [J.C.S.]

BLACK

***mel-n-** 'dull or brownish black'. [*IEW* 720–721 (**mel-* ~ **melə-*); Wat 40 (**mel-*); GI 685–686 (**mel-*); Buck 15.65; BK 535 (**mal-/*məl-*)]. Wels *melyn* 'yellow', Lat *mulleus* (< **ml̥n-ei̯os*) 'reddish', OE *mǣl* 'mark, sign; time' (> NE *meal* [< 'set time']), OHG *ana-malī* 'spot', Goth *mēla* (< **mēl-*) 'written mark', OPrus *melne* 'blue spot', Lith *mėlas* 'dark-blue', *mė́lynas* ~ *mulvas* 'blue', Latv *mel̦ns* 'black', Grk *μέλᾱς* 'black', *μελαίνω* 'blacken', OInd *maliná-* 'dirty, black'. Cf. Rus *malína* 'raspberry'. A term for 'brownish black', whose distribution from Celtic to Indic confirms the root can be reconstructed; the reference to brownish and eventually 'yellow' in Welsh indicates that a duller brownish black was the referent. GI suggest that this word is related to **mélit* 'honey' (i.e., originally 'honey-colored') but the semantic distance is very great.

***ḱeir-** 'dull or brownish black'. [*IEW* 582 (**ḱē-ro-*); Wat 28 (**kei-*); BK 201 (**ṭ̄[^{h}]ay-/*ṭ̄[^{h}]əy-*)]. OIr *cīar* (< **ḱeir-o-*) 'dark brown', Norw *harr* 'ashes', OE *hār* 'hoar, gray' (> NE *hoar*), OHG *hēr* 'worthy, grand' (< Proto-Gmc **xaira-* 'gray' < **ḱoir-o-*), OCS *sěru* (< **ḱoir-o-*) 'gray', Alb *thirr* (< **ḱir-no-*) 'soot', Grk *κίραφος* (< **ḱir̥-bho-*) 'fox', *κιρρός* (< **ḱirno-*) 'orangy'. The root **ḱeir-*, a word of the west and center of the IE world, seems to refer to much the same range of color as **mel-n-* and may be an innovative replacement in that region. The *IEW* confuses this term with **ḱer-* 'bluish gray' but the *i*-diphthong serves to distinguish the root for 'brownish black'.

***k^{w}r̥snós** 'black'. [*IEW* 583 (**kers-*); Wat 30 (**kers-*); GI 365; Buck 15.65; BK 274 (**k[^{h}]ar-/*k[^{h}]ər-*)]. OPrus *kirsnan* 'black', OCS *črŭnŭ* 'black', Rus *čërnyj* 'black', OInd *kr̥ṣṇá-* 'black'. Different formations are seen in Lith *kéršas* 'white and

black, piebald', Alb *sorrë* (< *k^wërsneh$_a$-) 'crow'. A third root confined to the center and east of the IE world, suggesting a later innovation, signifies a glossy black, as shown by the references to 'crows'.

See also BROWN; COLOR; DARK. [M.E.H.]

BLACKBERRY *see* MULBERRY

BLACKBIRD

***h$_a$emes-l-** 'blackbird'. [*IEW* 35–36 (**ames- ~ *omes-*); Wat 2 (**ames-*); BK 462 (**ham-/*həm-*)]. Wels *mwyalch* 'blackbird', Lat *merula* 'blackbird', OE *ōsle* 'blackbird', OHG *amusla* 'blackbird'. A western dialectal term.

***kopso-** 'blackbird'. [*IEW* 614–615 (**kopso-*)]. OCS *kosŭ* 'blackbird', Grk *κόψιχος* 'blackbird', *κόσσυφος* 'blackbird'. Possibly a central dialectal term.

Blackbird is a term that applies specifically to a thrush-like bird, the *Turdus merula*, which is entirely black in color and smaller than the crow or raven. Although cognate sets exist, they are clearly dialectal and provide no grounds for positing a PIE word for this bird. From PIE **k̂er-* 'crow' comes the MArm *sareak* 'blackbird', with the diminutive suffix *-ek*. In Old Indic the blackbird has many names, doubtlessly implying that the bird had no standardly understood terminology; most of the names are based on OInd *kal-*, probably meaning 'melodious' or 'murmuring', cf. Theocritus, who regarded the blackbird as sacred because of its sweet song. The blackbird is well distributed from Europe to Asia.

See also BIRDS. [J.A.C.G.]

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BLADDER

***u̯n̥dˢtís** 'bladder'. [*IEW* 1105 (**udero-*)]. Lat *vēs(s)īca* (< **vēnsīca*?) 'bladder', OInd *vastí-* 'bladder'. The apparent phonological match of the Latin and Old Indic words and the exact semantic match make this word a good candidate for PIE status.

See also ANATOMY; ENTRAILS. [D.Q.A.]

BLAME

***h$_1$lengh-** 'blame, reproach'. [cf. *IEW* 676 (**lengh-*)]. Grk *ἐλέγχω* 'blame, reproach', Hit *li(n)k-* 'swear', *lingai-* 'oath', Luv *likk-* 'swear'. The distribution, in Greek and Anatolian, strongly suggests PIE status. The peculiar semantic development seen in the Anatolian cognates is illuminated by the phrasing of the "soldier's oath" in Hittite. Swearing an oath in Hittite, and presumably more widely in Anatolian, consisted of a curse on oneself—to be fulfilled if the oath was broken.

See also OATH; PRAY. [D.Q.A.]

BLEAT

***bhleh$_1$-** 'bleat' (pres. ***bhleh$_1$i̯e/o-**). [*IEW* 154 (**bhlē-*)]. Lat *fleō* 'weep, cry, lament; shed tears', MHG *blæjen* 'bleat', Latv *blêju* 'bleat', Rus *bléju* 'bleat'. A word of the IE northwest.

?*blēk- '± bleat'. [*IEW* 102 (**blē-*)]. ORus *blekati* 'bleat', Rus *blekotátĭ* 'bleat', Grk *βληχάομαι* 'bleat' (cf. Alb *blegëras* 'bleat' and MLG *bleken* 'bleat'); as if from **bhlēd-*: OE *blǣtan* 'bleat' (> NE *bleat*), OHG *blāzan* 'bleat'. A widespread onomatopoeic formation, probably independent in each of the stocks where it occurs.

See also ANIMAL CRY; SHEEP. [D.Q.A.]

BLIND

***h$_a$endhós** 'blind'. [*IEW* 41 (**andho-*); Wat 2 (**andho-*); Buck 4.97]. Gaul *anda-bata* 'gladiator who fights in a helmet without eye-openings', Av *anda-* 'blind', OInd *andhá-* 'blind'. Though sparsely attested, its attestations come from opposite sides of the IE world and suggest a respectable antiquity. As the designation for an infirmity, the word was probably subject to taboo or euphemistic replacement.

***kolnós** 'one-eyed'. [*IEW* 545 (**kol-no-s*)]. Grk (Hesychius) *κελλάς* 'one-eyed', OInd *kāṇá-* 'one-eyed'. Possibly OIr *coll* 'having lost the right eye' and/or MIr *goll* 'blind of one eye, purblind'. If the Celtic be accepted, distribution would confirm at least a late PIE date for this word.

***káikos** 'one-eyed, cross-eyed'. [*IEW* 519–520 (**kai-ko-*); Wat 26 (**kaiko-*); cf. GI 135]. OIr *cāech* 'one-eyed', MIr *leth-chaech* 'cross-eyed', Wels *coeg* 'vacant', *coegddal* 'one-eyed', Lat *caecus* 'blind', Goth *haihs* 'one-eyed', perhaps OInd *kekara-* 'cross-eyed' (only attested very late). The *-a-* suggests a popular word, a "competitor" perhaps of the previous word. Certainly a westernism in IE. If the Old Indic word belongs here, then we have evidence for a much wider distribution originally.

In IE tradition, the received wisdom is that blindness comes about as a payment for other singular personal gifts or talents: the blindness of the poet Homer and the Theban seer Tīresiās are examples from Greek tradition while, on another level, the blind Indic god Bhaga, who rules all destiny, has obtained a power to make up for his lost sight. Sightlessness can also be construed as a "wound" in the IE First Function, affecting the head and a "sovereign" sense, located in the eyes.

A blind or single-eyed deity is a recurrent motif in the mythologies of a number of IE peoples, particularly those of western Europe, where it marks the Varuṇaic character in contrast to a one-handed Mitraic figure. In Norse mythology, Ōðinn sacrifices one of his eyes for a drink from Mīmir's well which provides him with the gift of wisdom while his Mitraic counterpart, Tȳr, must violate his own word given on trust in order to bind the wolf Fenrir and in consequence suffer the loss of his arm.

The Roman counterparts to the debilities of Ōðinn and Tȳr are to be found in early Roman history, or historicized myth, where Horātius Coclēs, who is blind in one eye, is able

to hold off the Etruscans with his one-eyed gaze while Mūcius Scaevola, a failed assassin of Lars Porsena, so impressed his intended victim by holding his hand in a fire and swearing an oath that many more assassins had also been dispatched to kill the Etruscan king, that Porsena sues for peace. Another possible instance of the one-eyed motif is to be found in Pliny's account of Regulus, a lawyer who would paint a large circle around one of his eyes in order to cast a spell over those in court.

Celtic examples of one-eyed figures who can "bind" through the power of their gaze are well known, especially in Irish mythology. In the cataclysmic second battle of Moytura, Lug dances about the armies of the Formorians on one foot and with one eye closed in order to insure victory while his main opponent, Balor, is renowned for his single enormous eye which would so fix his enemy that they would be powerless to resist. Moreover, many druidic names contain the element *dall-* 'blind' and its connection with prophetic power is evident in such tales as the *Tromdamh Guaire* where the blind druid Dallan Forgaill has his sight restored and thereby loses his special ability.

Jaan Puhvel has noted how the eye as a source of power finds a curious lexical association in both some IE and Semitic languages where 'eye' and 'well' or 'spring' seem to be closely related, e.g., Hit *sakui-* and Arm *akn* mean both 'eye' and 'well-spring' while Av *čašman-* 'eye' yields both NPers *čašm* 'eye' and *čašme* 'spring' while Latv *aka* 'well' and Rus *óko* 'eye' are cognate. Wells or springs, e.g., the Well of Mīmir in Norse mythology from which Ōðinn gains his prophetic power, are well known in Germanic and Celtic mythology.

See also DEFECT. [D.Q.A., J.P.M., D.M.]

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BLOOD

$h_1$ésh$_2$r̥ ~ *$h_1$ésh$_2$ōr (nom.), ***$h_1$$_esh_2$nós*** (gen.) '(flowing) blood'. [*IEW* 343 (*ēs-r̥(gᵘ)*); GI 715 (*esHr̥/n-(tʰ)*); Buck 4.15]. OLat *aser* ~ *assyr* 'blood' (this is an archaic word handed down in tradition whose exact shape had been forgotten), Latv *asins* 'blood', Grk *ἔαρ* 'blood', Arm *ariwn* 'blood', Hit *ēshar* (gen. *ēs(h)nas*) 'blood', OInd *ásr̥k* (gen. *asnás*) 'blood', TochA *ysār* and TochB *yasar* (< *$h_1$ésh$_2$ōr*) 'blood'. Cf. the derivative in Lat *sanguen* (< *$h_1$sh$_2$en-gʷ-en-*) 'blood'. Its geographical spread (including Anatolian) and archaic morphology insure PIE status.

kréuh$_a$ (nom./acc.), ***kruh$_a$ós*** (gen.), ***kréuh$_a$-s***, ***kréuh$_a$-ii̯o-*** 'blood (outside the body), gore'. [*IEW* 621 (*kreu-*); Wat 32 (*kreuə-*); GI 604 (*kʰreuH-*); Buck 4.15; BK 265 (*k[ʰ]ur-/*k[ʰ]or-*)]. MIr *crū* (< *kruh$_a$-*) 'blood', Wels *crau* 'blood', Lat *cruor* (< *kréuh$_a$ōs*) 'thick blood, gore', OPrus *krawian* 'blood', Lith *kraūjas* 'blood', OCS *krŭvĭ* 'blood', Rus *króvĭ* 'blood', Grk *κρέα* 'raw flesh', *κρέας* 'piece of meat', OInd *kravíṣ-* 'raw flesh'. The wide geographical spread and archaic morphology both guarantee PIE status. Cf. the derivative *kruh$_a$rós* 'bloody, raw': Lat *crūdus* (dissimilated from *crūro-*) 'raw', Av *xrūra-* 'bloody', OInd *krūrá-* 'bloody'; and in Germanic, *króuh$_a$os*: ON *hrār*, OE *hrēaw* (> NE *raw*), OHG *(h)rō*, all 'raw'.

It has been argued that the lexical distinction between '(inside) blood' and '(outside) blood' in PIE is emphasized by derivatives and extensions of meaning that indicate two opposed metaphorical sets. According to this hypothesis, the root for '(outside) blood' *kréuh$_a$-* yields words signifying aggression, e.g., Bret *kriz* 'cruel', Lat *crūdēlis* 'cruel', Lith *krùvinu* 'make bloody', Grk *κρούω* 'beat, whip, crush', and dying, seen metaphorically in terms of the hardening (or freezing) of 'outside blood', e.g., OIr *crūaid* 'hard', Lat *crusta* 'crust', Latv *kreve* 'coagulated blood', OInd *krūdáyati* 'makes thick, harden' and OHG *hroso* 'ice', Grk *κρύος* 'icy cold', Latv *kruv-es-is* 'frozen mud'. This connection, it is suggested, establishes an underlying semantic notion that *kréuh$_a$* was to be associated with a negative set of connotations involving wounding, death, the drying out or hardening of the body, and in the sense of Levi-Strauss, the "raw", i.e., the natural rather than the cultural world. However, while the words associated with blood clearly derive from *kréuh$_a$-*, this is not demonstrated for those that denote either 'cold' or 'strike' which can or must be derived from *kreu-* (without a laryngeal). Therefore, there are phonological grounds for distinguishing both the words and meanings in PIE although some form of secondary association between *kréuh$_a$-* and *kreu-* may have occurred. It is also suggested that *$h_1$ésh$_2$r̥* '(inner) blood' not only was associated with the concept of a life-giving body fluid but also denoted the patrilineal line, the male's own blood-line, in kinship terminology.

See also BODY; HEART; KINSHIP; SISTER. [D.Q.A., J. P. M.]

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BLOW

bhel- 'blow, blow up, swell (specifically used of genitalia)'. [*IEW* 120–122 (*bhel-*); Wat 6–7 (*bhel-*); GI 775 (*bʰel-*); Buck 10.38; BK 10 (*bul-/*bol-*)]. OIr *ball* 'body part', *ball fēili* 'pudendum', *ball ferda* 'penis', Lat *follis* 'leather sack inflated with air', *flō* (< *bhl-eh$_a$-*) 'blow', ON *blāsa* (< *bhl-ē-*) 'to blow', OE *blāwan* (< *bhlē-u̯-*) 'to blow' (> NE *blow*), OHG *blāsan* 'to blow', Goth *ufblēsan* 'blow', Grk *φαλλός* 'penis', Arm *belun* 'fertile', OInd *bhāṇḍa-* 'pot'. The relatively broad distribution of cognates makes this form solidly reconstructible to PIE.

bhlei- '± become inflated'. [*IEW* 156 (*bhlei-*)]. ON *blīstra* 'blow', Latv *blīstu* 'become thick', Grk *φλιδάω* 'overflow of moisture'. An enlargement of the previous entry.

peis- 'blow through an aperture so as to make a noise'. [*IEW* 796 (**peis-*); Wat 48 (**peis-*)]. Lat *spīrō* 'blow', ON *fīsa* 'to fart', OE *fisting* 'farting', MHG *vīsen* 'to fart', Lith *pyškėti* 'bursts, cracks', OCS *piskati* 'to whistle', Rus *piščú* 'squeak', OInd *picchorā* 'flute, pipe', TochA *pis-* (< **piyäsk-*) 'blow (a musical instrument)'. Latin *spīrō* shows an initial *s-* which makes its connection with the rest of this set a little doubtful. The Baltic, Slavic and Old Indic forms point to a suffixed stem **pi-sk-*. The distribution supports PIE status.

p(h)eu- 'blow, swell'. [*IEW* 847 (**pū-*); BK 34 (**p[h]uw-/ *p[h]ow-*)]. MIr *ūan* (< **pou-ino-*) 'foam, froth', Wels *ewyn* (< **pou-ino-*) 'foam', OPrus *pounian* (misspelling for **pomnan*?) (< **pon-man*) 'buttocks', Lith *pūrė* 'tuft, puff', Latv *paũre* 'summit, back of the head', Rus *púlja* 'ball', Arm *(h)ogi* (< **pou-i̯o-*) 'breath', OInd *pupputa-* 'swelling of the palate and gums'; **pū-g-*: ON *fjūka* 'snowstorm', Lith *pūgà* 'snowstorm', Latv *pūga* 'squall of wind', Grk *πυγή* 'buttocks', OInd *phupphukāraka-* 'panting'; **p(h)u-s-*: Lat *pustula* 'bubble, blister', Grk *φῦσα* 'wind, blast', OInd *púṣyati* 'flourishes, prospers'. The root-initial stop varies between aspirated and unaspirated, perhaps for sound-symbolic reasons. The large number of derivatives based on this root and its broad distribution suggest PIE status.

su̯ei- 'blow through a small aperture so as to hiss or buzz'. [*IEW* 1040–1041 (**su̯ei-*); Wat 68 (**swei-*); GI 105; Buck 10.38]. **su̯eisd-*: OIr *sēitid* 'blows', Wels *chwythu* (< **su̯isd-*) 'blows', OCS *svistati* 'to whistle, hiss', Grk *σίζω* 'sizzle, crackle', OInd *kṣvéḍati* 'buzzes, hums, murmurs'; **su̯eighl-*: Lat *sībilō* 'whistle, hiss', OHG *swëgala* 'reed, flute', Goth *swiglōn* 'to play the flute'. The stem **su̯eisd-* may be reconstructed to PIE with some certainty, based on the range of languages in which it is attested and the fact that the correspondences are fairly regular. The Latin and Germanic forms may be derivatives based on the same root but due to their onomatopoeic nature, it is also possible that they represent parallel innovations in the two stocks.

h_2u̯eh_1- 'blow'. [*IEW* 82–83 (**uē-*) ; Wat 73 (**wē-*); GI 584 (**Hu̯-*); Buck 10.38]. OE *wāwan* 'to blow', OHG *wāen* 'to blow', Goth *waian* 'to blow', OCS *vějati* 'to blow', Grk *ἄησι* 'blows', Av *vāiti* 'blows', OInd *vā́ti* 'blows'; **h_2u̯eh_1-ntos*: Wels *gwynt* 'wind', Lat *ventus* 'wind', ON *vindr* 'wind', OE *wind* 'wind' (> NE *wind*), Goth *winds* 'wind', Hit *huwant-* 'wind', OInd *vā́ta-* 'wind', TochA *want* 'wind', TochB *yente* 'wind'. The Old Indic form may presuppose **h_2u̯eh_1n̥tos* with vocalism of the syllabic nasal preceding loss of medial laryngeal. Both the verbal root and the participial derivative are very solidly attested to PIE.

per- 'blow (on a fire)'. [*IEW* 809 (**per-*)]. OCS *para* 'steam, smoke', Grk *πρήθω* 'blow', *πίμπρημι* 'burn', Hit *p(a)rāi-* 'breathe, blow'; **preus-* ON *frysa* 'to pant, snort', OInd *pruṣṇóti* 'sprinkles, showers'. Some confusion exists among forms based on the stem **preus-* in the particular meaning 'blow on a fire' and forms based on the homophonous root **preus-* 'freeze, burn'. Although the root **per-* is only scantily attested, its distribution suggests PIE status.

bhes- 'blow'. [*IEW* 146 (**bhes-*); Wat 8 (**bhes-*); GI 134 (**b[h]es-*)]. Grk *ψῡχω* 'cool off' (tr.) (originally 'cool off by blowing'), OInd *bábhasti* 'blows', TochB *pās-* 'whisper'. If all of these words belong together then we have evidence for PIE status.

See also FART; SEXUAL ORGANS; SWELL; WIND. [M.N.]

BLUE *see* GREEN

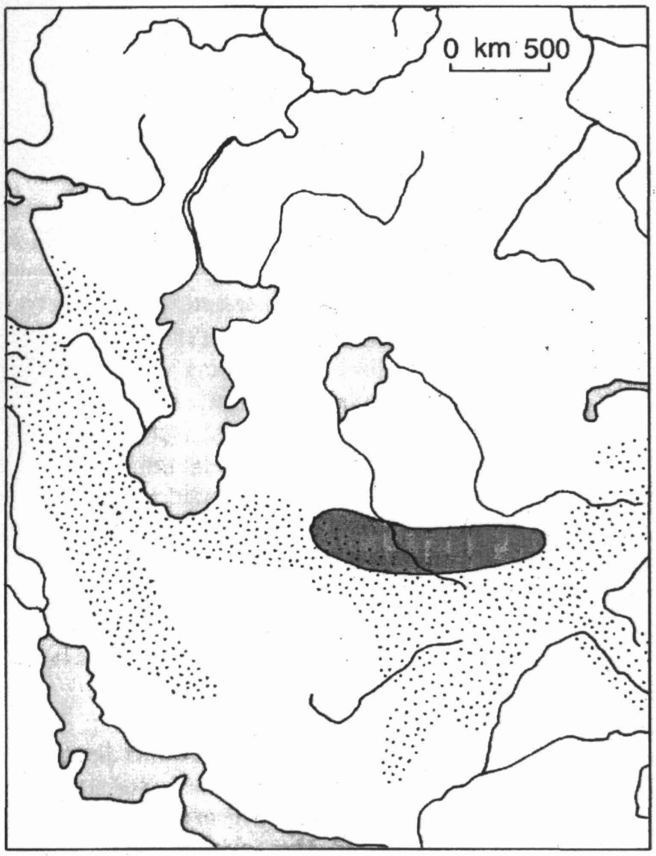
BMAC (BACTRIAN-MARGIANA ARCHAEOLOGICAL COMPLEX)

The BMAC (also known as the Oxus culture) is a late Bronze Age cultural phenomenon (*c* 2200–1700 BC) of southern Turkmenistan. Coincident with the collapse of urban societies further south (Namazga V/VI periods), there was a colonization of the oases of Bactria and Margiana from the south (Namazga V type pottery is found on some of the earliest BMAC sites). The proliferation of the new sites, however, has also suggested that there was an additional demographic element absorbed by the BMAC.

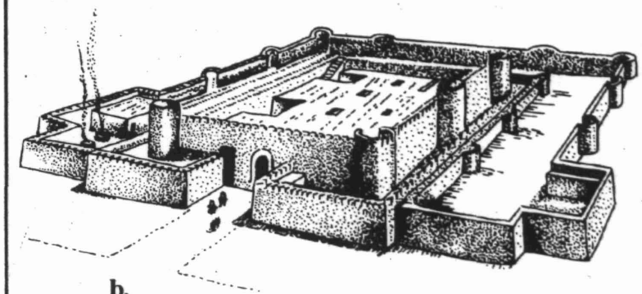
The settlements of the BMAC are typified by defensive forts such as Gonur and Togolok, both circular and rectangular, that may be surrounded by up to three walls. These greatly resemble the *qala*, the type of fort in this region also known from the historical period. Within the forts are residential quarters, workshops and temples. The social structure of these forts, at least on the basis of later ethnographic evidence, suggests that each had its own ruler who may well have been in competition with both neighboring forts and with nomadic tribes of the region. The existence of nomadic stockbreeders is attested on and near many of the fortified sites by the presence of Andronovo pottery.

At the fortified site of Dashly 3 there was also a circular ceremonial center. Investigation of some of the ceremonial rooms has revealed evidence for cultic paraphernalia that has been identified with the *soma* (Iranian *haoma*) ritual, i.e., equipment for expressing a liquid, remains of both ephedra and poppy, and it has been suggested that the **sauma* ritual emerged out of these BMAC centers and was carried southwards into the historical seats of the Indo-Aryans.

The economy of the BMAC was based on irrigation agriculture and stockbreeding. The primary cereal crop identified so far is barley (*Hordeum vulgare*) accompanied by a variety of wheats (*Triticum aestivium/durum, T. dicoccum*) and some pulses and lentils, i.e., chick-pea (*Cicer*), pea (*Pisum*), grass pea (*Lathyrus*) and lentil (*Lens*). Among the fruits, there is evidence of plums (*Prunus*), apple (*Malus*), and grape (*Vitis*). The domestic animal remains were dominated numerically by sheep and goat with small numbers of cattle. The age-structure of the sheep, with many older individuals known from the site of Gonur, suggests that they were exploited for wool as well as meat. In the later period there is some evidence for camel. Wild animals included gazelle, wild boar, tortoise, and eagle. Onager remains are known from the culture as well but horse remains have not



BMAC a. Distribution of the BMAC.



b.



c.



d.

BMAC b. Reconstruction of the site of Togolok; c. Cylinder seal from a burial at Togolok (the depiction of humans apparently dressed as animals has been interpreted as evidence for a shamanic ritual); d. Antenna sword.

yet been found although the presence of Andronovo material on the sites suggests a knowledge of the horse since this animal is very well represented on Andronovo sites further north. Evidence of the domestic donkey (*Equus asinus*) have been recovered but its chronological position (BMAC or still later in the Bronze Age) is uncertain.

The ability of the BMAC to expand over a large area was due to its adoption of intensive irrigation. The structure of the citadels, along with the large quantity of locally produced status goods frequently recovered from burials, suggests a hierarchical society. The grave-gifts included metal goods (copper bowls, ornaments, silver buttons), ceramics and stone vessels, and stone seals. The seals reveal scenes presumably associated with mythological figures, e.g., snakes, dragons, lions, and entire "narrative" scenes.

The BMAC now plays a very important role in discussions of the archaeology of the early Indo-Iranians. One of the key problems of identifying Indo-Iranian expansions into Iran, Pakistan and India has been the chain of Central Asian urban sites that apparently separated nomadic stockbreeders of the Russian and Kazakhstan steppe, the Andronovo culture, who conformed very well with respect to settlement, economy, technology and ritual expected of the early Indo-Iranians and the earliest historically identified Indo-Aryan and Iranian cultures further south. To the south of the Central Asian centers were the local Iranian and Indian cultures which were presumably or provably non-IE, e.g., to the southwest of the Caspian were the Hurrians and Urartians while southern Iran was occupied by the Elamites; the Harappan culture of India is presumably non-Indo-European. There is no evidence that these regions were penetrated significantly by the Andronovo culture of the northern steppe. Hence, it has become increasingly clear that if one wishes to argue for Indo-Iranian migrations from the steppe lands south into the historical seats of the Iranians and Indo-Aryans that these steppe cultures were transformed as they passed through a membrane of Central Asian urbanism. The fact that typical steppe wares are found on BMAC sites and that intrusive BMAC material is subsequently found further to the south in Iran, Afghanistan and Pakistan, may suggest then the subsequent movement of Indo-Iranian-speakers after they had adopted the culture of the BMAC. Such a model, obviously, presupposes that one can associate an Indo-Iranian identity with the BMAC.

Arguments for this identity rests on several lines of evidence. The geographical location of the BMAC or Oxus sites conforms, it is argued, with the historical situation of the Da(h)a and Parnoi mentioned in Greek and Latin sources which have, in turn, been identified with the Dāsas, Dasyus and Paṇis of the *Ṛgveda* who were defeated by the Vedic Ārya. The presence of triple-walled circular forts in the BMAC also matches the description of the fortified sites depicted in the Vedas. Moreover, the BMAC sites have also yielded physical

evidence of what has been presumed to be the Indo-Iranian **sauma* cult, one of the characteristic religious distinctions between the Vedic Ārya and their enemies. On the model of contemporary relationships between Tajiks, the settled farmers of the area, and the semi-nomadic Uzbeks, the steppe populations are presumed to have been in regular seasonal contact with those settled in the oases. Such relationships have tended to result in bilingualism among the settled populations, one of the prerequisites of a language shift.

See also ANDRONOVO CULTURE; BISHKENT CULTURE; HARAPPAN CULTURE; INDO-IRANIAN LANGUAGES; MEHRGARH; SACRED DRINK; VAKHSH CULTURE. [J.P.M.]

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BOARD *see* PLANK

BOAT

***néh$_a$us** (gen. ***n̥h$_a$u̯ós**) 'boat'. [*IEW* 755 (**nāus-*); Wat 43 (**nāu-*); GI 582 (**naHw-*); Buck 10.83; BK 568 (**na-/*nə-*)]. OIr *nāu* (*DIL nō*) 'boat', Wels *noe* 'boat', Lat *nāvis* 'ship' (borrowed > NE *nave*), ON *nōr* 'ship', OE *nōwend* 'skipper, sailor' (with, as sometimes happens, a "hardened" laryngeal we have ON *nokkui* 'boat', OE *naca* 'boat', OHG *nahho* 'skiff, small boat' reflecting a virtual **neh$_a$u̯-on-*), Grk *ναῦς* '(war-)ship', Oss *naw* 'boat', OInd *nāu-* 'boat'; compare the derivative **neh$_a$u̯ii̯os*: Grk *νήïος* 'of or belonging to a boat', Av *nāvaya-* 'navigable', OPers *nāviyā* '[river] passable only with a boat, not wadable', OInd *nāvyà-* 'crossable with a boat', Khowar *nā* 'mill-race, aqueduct consisting of hollow logs' (and similar words in other Dardic and Nūristāni languages, e.g. Ashkun as *nō* ~ *nāwa* 'mill-race', Kati *nū* 'mill-race, aqueduct consisting of hollow logs'). TochA *new* 'flood' (< **naiwe* by metathesis < **neh$_a$u̯ii̯o-*; it may be a direct inheritance or, more probably, a borrowing from Iranian, specifically Sogdian). In the Iranian Sarikoli we have *wanɛw* 'irrigation channel' reflecting **wi-nāwiyā*. These latter meanings may suggest that for the Proto-Indo-Iranians both aqueducts and boats might be made out of hollowed-out logs. From **(s)neh$_a$-* 'swim' which renders quite uncompelling GI's attempt to derive this word from a West Semitic **'unw-(at-)* 'jar, vessel'. The evidence of Dardic and Nūristāni might suggest that this PIE 'the swimmer' might have been, in earliest times, a hollowed out log. In any case, this word is widely reflected in IE and is clearly the most usual word for 'boat' in PIE.

***h$_x$oldhu-** '(dugout) canoe, trough'. [*IEW* 31–3 (**aldh-*); Buck 10.83]. OE *ealdoþ* (< **h$_x$oldhu-to/eh$_a$-*) 'trough', ORus *lodŭka* 'boat', Rus *lódka* 'boat', TochAB *olyi* (< **h$_x$oldhuh$_1$en-*) 'boat'. Different formations appear in Norw (dial.) *olda* 'trough', NSwed (dial.) *ålle* 'trough', ODan *aalde* ~ *olde* 'trough' (< Proto-Norse **aldōn-*), Lith *aldijà* 'boat', OCS *ladiji* ~ *alŭdiji* 'boat' (Balto-Slavic < **h$_x$oldhii̯eh$_a$-*). Here is the primary word for 'dug-out' or the like. Sufficiently widespread to be very probably a late PIE word.

***(s)kolmos** 'boat'. [VW 228–229]. OHG *skalm* (< **skol-mo*) 'boat', TochA *kolām* 'boat', TochB *kolmo* 'boat' (Toch < **kolmo-on-*). From **(s)kel-* 'cut'. Though reflected in only two IE stocks, the geographical distribution of those two stocks makes it probable that we have here evidence for a late PIE word.

?*plou̯os ~ ***plouii̯om** '± watercraft'. [*IEW* 835–837 (**plou̯ó-s*); cf. Wat 52 (**pleu-*); GI 582 (**p^{h}leu-*)]. From **plou̯os*: Rus *plov* 'boat', TochB *plewe* 'raft'; from **plouii̯om*: ON *fley* 'ship', Grk *πλοῖον* 'ship'; other formations: Grk *πλοῦς* 'time for sailing', OInd *plavá-* (< **pleu̯ós*) 'boat'. From **pleu-* 'float'. This set of words is a second group reflecting an original meaning 'floater' or the like. However, the derivational processes which underly these words are all very productive in these IE groups and it is quite possible that we have here a collection of independent formations rather than the reflection of a genuine PIE word.

The words for 'boat' that we can reconstruct for (some part of) the IE world are of two kinds: (1) those that appear to have originally meant 'swimmer', 'floater', or the like (**néh$_a$us*, **plou̯os* ~ **plouii̯om*) and (2) those which appear to have meant 'that which is carved out' (**h$_x$oldhu-*, **(s)kolmos*), though clearly the differentiation of these two groups was not absolute. This distinction between 'swimmer' and 'that which is carved out' is not far removed from the terminology employed in the archaeological study of vessels where three forms of water transport may be distinguished: the float, a buoyant object employed by its user partially submerged in water; the raft, a means of transport where the material of conveyance floats because of its own natural buoyancy; and the boat, where the means of flotation are achieved by the hollowed-out shape of the vessel which displaces the water. The structural variations of the latter are quite large and range from simple hide boats, to those which are reinforced with a frame, birch and basket boats, plank boats (of a wide range of constructions) and solid (dug-out) boats. As for the rafts, there is considerable evidence in the ethnographic record that they need not be simply a few logs lashed together but may even be built in the shape of a boat and fitted with a sail.

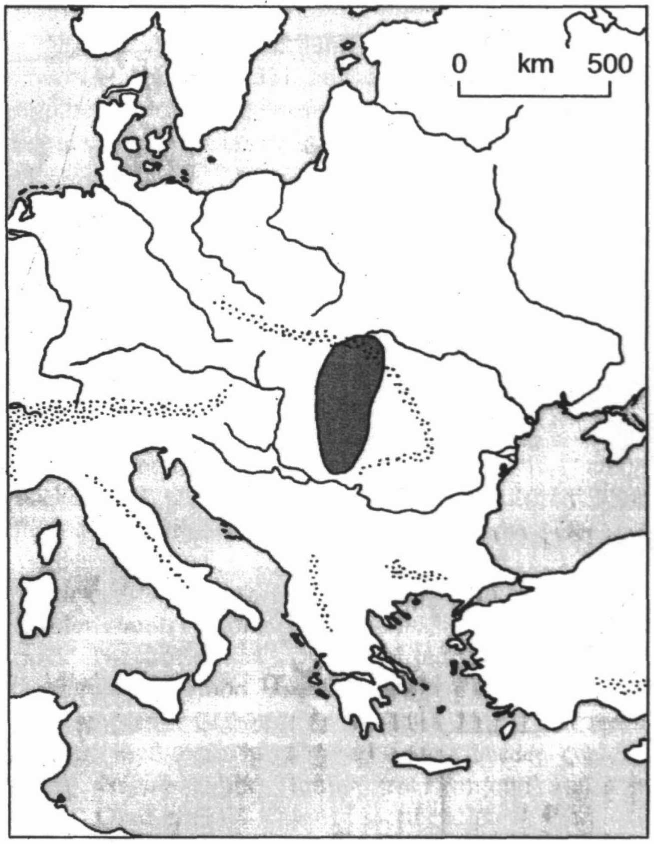
Boats long predate the existence of the PIE language family and are attested at least since the Mesolithic in Europe and western Asia by either inference, e.g., the occupation of Ireland by human communities by *c* 7000 BC after it had become an island or the presence of obsidian on mainland Greece which had been obtained from the Island of Melos in the Cyclades, or direct archaeological evidence, e.g., clay models of vessels such as a small clay boat from a Copper Age site in Bulgaria, or the actual remains of dug-out canoes fashioned from lime-wood discovered in a late Mesolithic settlement in Denmark.

The use of dugouts was not confined to the coastal regions of Europe but we also find evidence in the inland waterways and lakes. During the Neolithic period, dugouts of oak are known from the Swiss lake-side dwellings. The use of birch-bark and hide vessels is more elusive but they are also believed to date from a very early period; indeed the latter is regarded as far more seaworthy and they were employed also since the Mesolithic. As the reconstructed PIE vocabulary for water transport is confined to 'boat' and 'oar' (and does not include the 'sail' which is encountered archaeologically from the Bronze Age onwards, or any other specialized nautical terms), there are neither grounds for presuming a particularly high level of naval technology for the speakers of the proto-language nor can the evidence of the boat be employed to specify the homeland of the Indo-Europeans.

See also FLOAT; OAR; SWIM. [D.Q.A., J.P.M.]

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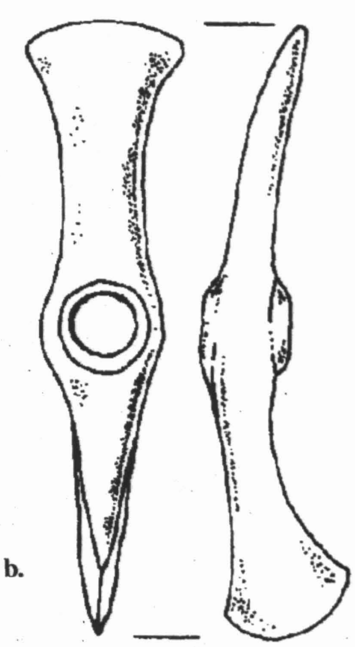
Bodrogkeresztúr a. Distribution of the Bodrogkeresztúr culture.

BODROGKERESZTÚR CULTURE

This middle Copper Age culture (*c* 4000–3600 BC) of Hungary is known best from its seventy cemeteries which show clear genetic links with its predecessor, the Tiszapolgár culture. Settlement evidence is extremely meager and confined to only a handful of sites without clear architectural remains. The economy was apparently mixed agriculture and stock-breeding with cattle the predominant species, followed by sheep/goat and pig. Wild fauna include the aurochs, red deer, wild boar, roe deer and hare. Ceramics continue the forms of the earlier culture although a particular form, termed a "milk jug", is also prominent. There is an increase of objects of copper and gold, both implements (shaft-hole axes, awls) and ornaments from the preceding culture. Flint and stone tools also continue.

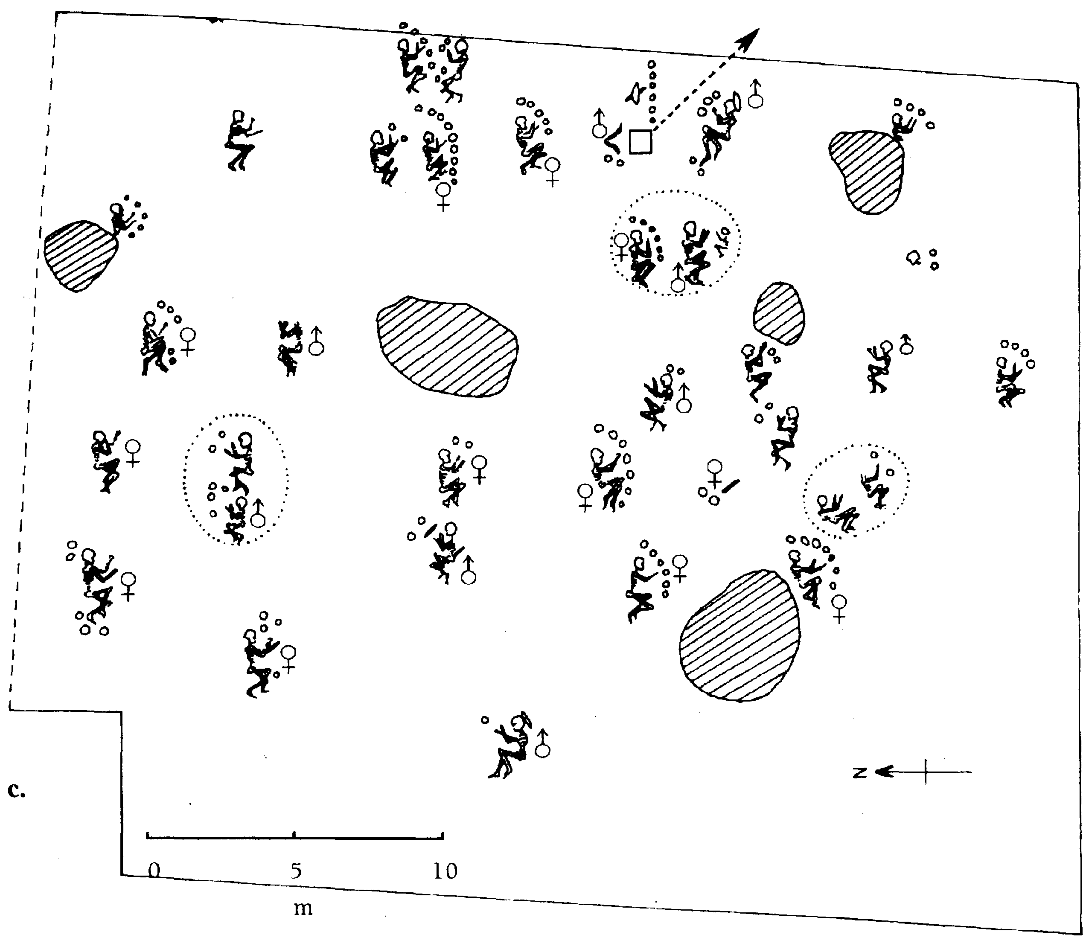
The Bodrogkeresztúr cemeteries make a sharp distinction according to sex with males buried on their right side, females on their left; both sexes are oriented with their heads to the east. Burials are accompanied by pottery, implements of stone and copper, and ornaments of copper and gold. Social and demographic analyses of the cemeteries have suggested that the Bodrogkeresztúr communities lived in small groups of 15–20 closely related people. Comparisons between the distribution of wealth in the Bodrogkeresztúr cemeteries and those of the preceding Tiszapolgár period suggest that the later burials were more egalitarian and showed less emphasis on male primacy.

Within the Kurgan theory of IE origins, the Bodrogkeresztúr culture is explained as a "kurganized", i.e., Indo-Europeanized, native culture of southeast Europe whose structure was altered by steppe intruders although analysis of the physical type indicates that the population was of the local "Mediterranean" type rather than the intrusive Proto-Europoid type of the steppelands. Alternatively, it has been



b.

Bodrogkeresztúr b. Bronze ax.



Bodrogkeresztúr c. Cemetery at Pusztaistvánháza (sexual dichotomy is marked with males on right side and females on left).

viewed as a culture stemming from a central-east European (IE) homeland that, with the Sălcuța culture of neighboring Bulgaria, migrated southwards to form the "Proto-Greeks" in the third millennium BC.

See also **Tiszapolgár Culture**. [J.P.M.]

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BODY

kréps (gen. ***kr̥pós***) 'body'. [*IEW* 620 (**krep-*); Buck 4.11; BK 323 ($*k^{w}[^{h}]ur\text{-}/*k^{w}[^{h}]or\text{-}$)]. OIr *crī* (**kr̥ps*) 'body, flesh', Lat *corpus* 'body', OE *hrif* 'belly, womb', OHG *(h)rēf* 'body', Av *kərəfš* 'body', OInd *kŕ̥p-* 'form, beauty'. This is the one word reconstructible for PIE with the meaning 'body'.

See also **Anatomy**. [D.Q.A.]

BOIL

bher- 'seethe, bubble'. [*IEW* 132–133 (**bher-*); Wat 9 (**bhreu-*); BK 4 (**bar-/*bər-*)]. MIr *fobar* (*DIL fofor*) (< **uo-bero-*) 'well', Wels *gofer* (< **uo-bero-*) 'brook', Lat *fermentum* (< **bher-men-tom*) 'ferment, leaven', OE *beorma* 'yeast, leaven', Grk (redup.) *πορφύρω* 'bubble', Av *bara-* 'move oneself quickly', OInd *bhuráti* 'moves rapidly, quivers'. There is some question whether the Indo-Iranian forms are cognate with the others though this word still seems reconstructible to PIE.

bhereu- 'seethe'. [*IEW* 143–145 (**bh(e)reu-*); Wat 9 (**bhreu-*); Buck 5.22, 10.31]. OIr *berbaid* 'boils, seethes', Wels *berwaf* 'boil', Lat *ferveō* 'boil', OE *brēowan* 'to brew' (> NE *brew*), OHG *briuwan* 'to brew', Alb *brumë* 'dough', OInd *bhurváṇi-* 'restless, excited'. An extension of **bher-* 'seethe' with reference to cooking and brewing confined to the European stocks.

seu- 'boil (something)'. [*IEW* 914–915 (**seu-*); Wat 58 (**seut-*)]. ON *sjōða* (< **seu-t-*) 'to cook, boil', OE *sēoðan* (< **seu-t-*) 'to cook, boil' (> NE *seethe*), Goth (noun) *sauþs* (< **seu-t-*) 'sacrifice', Lith *siaũsti* 'to rave, charge around', Rus *šutítĭ* 'to joke, play with', Av *hāvayeiti* 'stews'. The range of stocks in which this root is attested secures it to PIE. The meaning 'sacrifice' in Gothic suggests the possibility that some

sacrificed animals were boiled.

i̯es- 'boil'. [*IEW* 506 (**i̯es-*); Wat 79 (**yes-*); Buck 10.31]. OIr *es(s)* 'cataract', Wels (noun) *ias* 'boiling', OE *gist* 'foam, yeast' (> NE *yeast*), OHG *jesan* 'to ferment, effervesce', Grk *ζέω* 'boil, cook', Hit *is(sa)na-* 'dough', Av *yaēšya-* 'boil', OInd *yásyati* 'boils, foams', TochA *yäs-* 'boil', TochB *yäs-* 'excite, ravish' (< *'make boil'). Broad distribution and semantic regularity, especially with widespread reference to food preparation, suggest PIE status.

sret- ~ ***sredh-*** 'boil, be agitated, move noisily'. [*IEW* 1001–1002 (**sr-edh-* ~ **sr-et-*)]. MIr *srithit* 'spurt of milk or blood', OHG *stredan* 'effervesce, whirl, boil', Grk *ῥόθος* 'rushing noise, roar of waves, clash of oars', TochA *ṣärtw-* 'incite, instigate, encourage', TochB *ṣärtt-* 'incite, instigate, encourage'. If all of these words, as seems probable, belong together then we have evidence for a PIE word.

See also BEER; COOK; FERMENT; WAVE. [M.N.]

BONE

***$h_2$óst** (gen. ***$h_2$ésts**) 'bone'. [*IEW* 783 (**ost(h)-*); Wat 46 (**ost-*); GI 716 (**q^he/os-t^h-*); Buck 4.16]. OIr *asna* ~ *esna* (< **$h_2$estnii̯o-*) 'rib', MWels *eis(en)* (< **$h_2$estōn*) 'ribs', Lat *os* 'bone', Alb *asht* 'bone', Grk *ὀστέον* 'bone', *ὀσφῦς* (< **$h_2$ost-bhu-*) 'hip', *ὀστακός* ~ *ἀστακός* (< **h_2e/ostn̥kó-*) 'lobster', *ἀστράγαλος* 'vertebra, ball of ankle joint, knucklebone', Arm *oskr* (< **$h_2$ost-u̯r̥*) 'bone', Hit *hastāi-* 'bone', Luv *hās(sa)* 'bone', Av *as-ča-* 'shinbone', *asti-* 'bone', OInd *ásthi* (gen. *asthnás*) 'bone', TochB *āsta* (pl.) 'bones'. (Possibly connected are Lat *costa* 'rib' and OCS *kostĭ* 'bone' but the initial **k-* is not explained.) Practically universal in IE: clearly the PIE term for 'bone'.

See also ANATOMY; COSMOLOGY. [D.Q.A.]

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BOOTY

soru 'booty (particularly men, cattle, and sheep)'. [cf. *IEW* 910 (**ser-*); GI 644 (**se/orw-*)]. Preserved as such only in Hit *sāru* 'booty (particularly captured men, cattle, and sheep)', *saruwai-* 'plunder, rob'; cf. the derivative **seru̯o/eh_a-* '± pertaining to booty' in MIr *serb* (< **seru̯eh_a-*) 'theft', Wels *herw* (< **seru̯os*) 'raid (whose principal goal was usually cattle); outlawry'. Perhaps belonging here also is Lat *servus* 'slave' if < *'he of the booty' (i.e., 'someone brought home as booty').

See also CAPTIVE; FREEMAN; REWARD; SERVANT; STEAL; WEALTH. [E.C.P., D.Q.A.]

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BORDER

***$h_4$erh$_2$os** 'border, line, limit'. [*IEW* 784 (**ōus-*); GI 647 (**e/orH-*); Buck 12.353]. Hit *arha-* 'line, rim, boundary, confine(s)', *arhā(i)-* 'go down the line, circulate, make the rounds', *arahzena-* 'one living outside the boundary', *irhui* ~ *erhui* (< **h_4r̥h$_2$ū-*) 'basket' (< *'circular line'). Cf. the derived **h_4ōrh$_2$o/eh_a-* in OE *ōr* (< **h_4ōrh$_2$om*) 'beginning, front', *ōra* (< **h_4ōrh$_2$-on-*) 'border, bank, shore', Lat *ōra* 'brim, edge, boundary, coast; region, rope, cable' (< *'line'); from **h_4ērh$_2$o/eh_a-* we have Lith *óras* 'air, weather' (< *'what is outside'), *iš óro* 'outside', Latv *āra* 'border, boundary, country, limit'. The line or limit separating indoors from outdoors or the village from the surrounding countryside. Widespread and old in IE.

morĝ- 'border'. [*IEW* 738 (**mereĝ-*); Wat 42 (**merg-*); Buck 19.17]. OIr *mruig* 'district', Wels *bro* 'district' (Celtic from a metathesized **mroĝ-*), Lat *margō* 'edge', ON *mǫrk* 'borderland, forest', OE *mearc* 'border, district', OHG *marka* 'border, district', Goth *marka* 'border, region', Av *marəza-* 'border country', perhaps TochA *märkam-* 'characteristic mark'. The distribution suggests PIE status.

***térmn̥** ~ ***térmōn** 'border'. [*IEW* 1075 (**ter-mn̥-*); Wat 70 (**ter-men-*); GI 50 (**t^her-H-*); Buck 19.17]. Lat *termen* 'border', Myc *te-mi* 'border', Grk *τέρμα* 'border, goal, end point', *ἀτέρμων* 'without limits', Arm *t'arm* 'end', Hit *tarma-* 'stake', OInd *tárman-* 'point of sacrificial post'. From **ter-* 'cross over'. Specific points along borders were marked by posts or stakes, hence from **ter-men-*, literally, 'that which one crosses over' to Hit *tarma-* 'stake'. The use of stones, stakes, posts, etc., as border markers arose with sedentism and religious practices. In ancient Rome, for example, the father of the family ritually circumambulated his fields whose borders were marked by posts or stones which had been set into the ground according to ritual prescriptions involving sacrifices. In Rome, Greece and India, boundary posts or stones were regarded as sacrosanct and harsh penalties were exerted against anyone who violated such markers.

Historical records in Latin, Greek and Old Indic report rituals intended to separate sacred, and thus living, space from profane and thus uninhabitable space. Both the hearth and the tomb were circumscribed with sacred rites. These rites while emphasizing kinship, implicitly required the separation of one hearth, one household, one homestead, and eventually, a social unit bound by the same ancestral founder, from the next. Social and religious considerations are therefore at the inception of formal boundaries.

See also FURROW; LINE. [A.D.V.]

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BOTTOM *see* GROUND

BOW AND ARROW

g^{w}(i)i̯éh$_{a}$ (gen. ***g^{w}ih$_{a}$ós***) 'bow-string; taut thread'. [*IEW* 481 (**g^{u}i̯i̯ā ~ *g^{u}i̯i̯ós*)]. Lith *gijà* 'warp threads', OCS *žica* 'thread', Grk *βιός* (< **g^{w}ih$_{a}$-ó-s* 'that provided with a bow-string') 'bow', Av *jyā* 'bow-string', NPers *zih* 'bow-string', OInd *jyā́* 'bow-string'. Archaic in shape. In respect to the meaning 'bowstring', clearly at least a word of the southeast of the IE world.

h$_{1}$ísus (perhaps originally ***h$_{1}$éisus***, gen. ***h$_{1}$isu̯ós***) 'arrow'. [*IEW* 301 (**eis-*); GI 643]. Grk *ἰός* (< **h$_{1}$isu̯ós*) 'arrow', Av *išu-* 'arrow', OInd *íṣu-* 'arrow'. From **h$_{1}$eis-* 'set in motion'. Attested only in the southeast of the IE world.

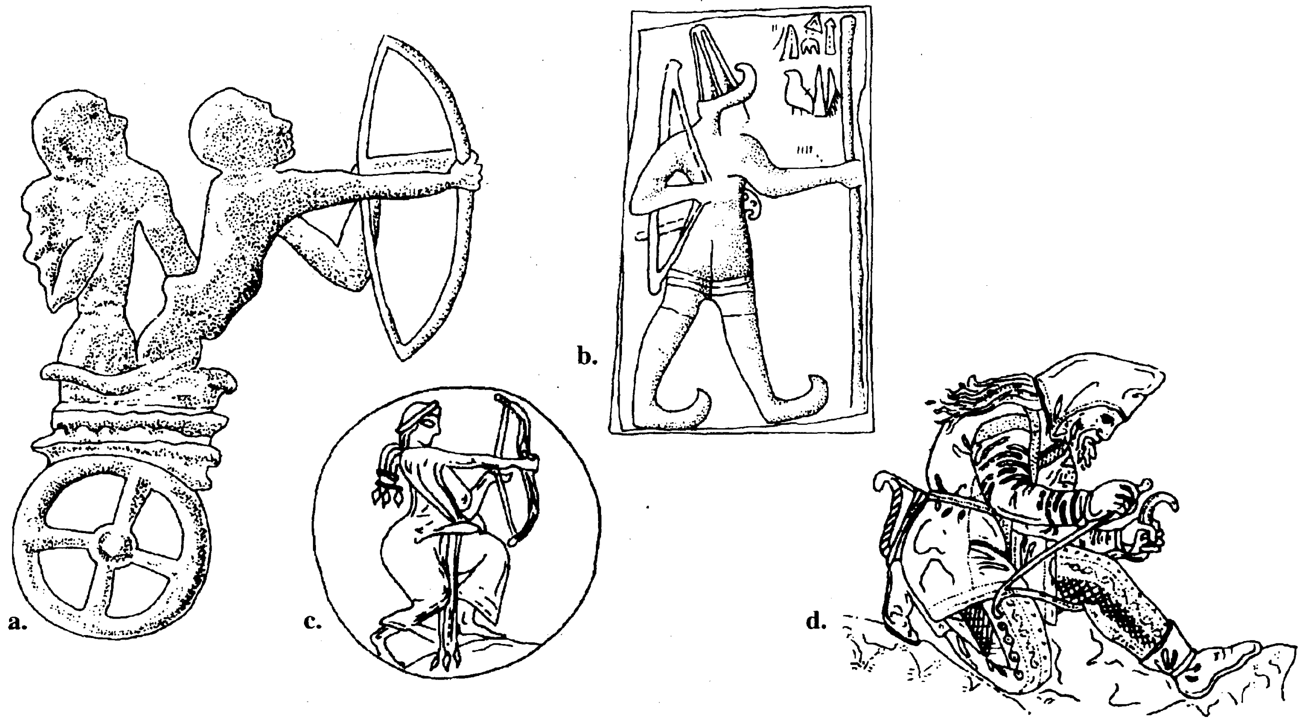
h$_{a}$érku̯os 'bow and/or arrow'. [*IEW* 67 (**arqu-*); Wat 3 (**arku-*); Buck 20.24; BK 384 (**ħar-ak[^{h}]-/*ħər-ak[^{h}]-*)]. OLat *arquus* 'bow', Lat *arcus* 'bow', ON *ǫr* 'arrow', OE *earh* 'arrow' (> NE *arrow*), Goth *arhvazna* 'arrow'. Attested only in the west of the IE world.

?*tóksom 'bow'. [cf. *IEW* 1059 (**tek^{u}-*); cf. Wat 69 (**tek^{w}-*); Fried 125–129]. Myc *to-ko-so-wo-ko* 'bow-makers', Grk *τόξον* 'bow', Scythian *taxša* 'bow', MPers *taxš* 'bow'. It has often been assumed that the Greek word is borrowed from Scythian, sometime after the founding of Greek colonies on the northern shore of the Black Sea (Olbia, Tanais, etc.). Certainly Athens was known for having a police-force of Scythian archers. However, the apparent presence of the word in Mycenaean, long before there is any recorded contact between Greeks and Eastern Iranians, would suggest that *τόξον* might be inherited rather than borrowed. In any case, this is a metonymic extension of **tóksom* 'yew' either in the southeast of the IE world or in Eastern Iranian alone.

The use of the bow and arrow dates to the end of the Palaeolithic (the last Ice Age) and it was one of the most common and ubiquitous weapons known in Mesolithic Eurasia. The archaeological evidence for the bow is derived from well-preserved contexts, e.g., Swiss lake-side dwellings, Danish bogs, and iconography. From the actual evidence of prehistoric bows we find that the material of manufacture ever since the Mesolithic was almost predictably yew followed distantly by elm (cf. ON *almr* 'elm; bow', OE *elm* 'elm'), and less occasionally maple or pine (cf. PIE **dhonu-* 'fir' which may give Av *θanwarə* 'bow', OInd *dhánuṣ* 'bow'). That the bow was not used exclusively for hunting is indicated by the evidence of Mesolithic cemeteries in both the Baltic and the Ukraine where arrowheads were found embedded in the remains of the deceased. Similarly, during the Neolithic it served not only for the hunting of the wild fauna found on almost any site but also for warfare, e.g., in southern Britain there is dramatic evidence for archery-based attacks on Neolithic enclosures while in the Yamna culture of the Pontic-Caspian steppe the discovery of single arrowheads in burials is often interpreted as evidence for the cause of death rather than a gravegood. Archery kits, comprising flint arrowheads and wrist bracers and occasionally small bow-shaped pendants, are a distinctive feature of the Beaker burials that mark the transition from the end of the Neolithic to the early Bronze Age across a broad region of western and central Europe. There is also a large quantity of arrowheads found among the slightly earlier Copper Age Rinaldone and Remedello cultures of central and northern Italy.

There is some evidence for a transition to bronze arrowheads in western Europe, e.g., in Brittany there are some sixty examples of bronze arrowheads found alongside flint while they also occur in the Argaric culture of Spain and they are known later in the middle Bronze Age from southern France. Despite the fact that Caesar mentions the possession of the bow by the Gauls on the Continent, a Celtic word is absent from any of the cognate sets due to the disappearance of the bow and arrow from Insular Celtic-speaking territories during the later Bronze Age. Although the bow and arrow were well known in Ireland during the Neolithic and early Bronze Age, there is no evidence for this weapon from *c* 1500 BC until literary records of the Middle Ages when the Irish found themselves on the receiving ends of Viking archers. Earlier encounters with the arrow probably derived from Irish raids on Roman Britain and the Insular Celts gained their word for 'arrow' from the Romans, i.e., OIr *saiget* < Lat *sagitta* 'arrow' (cf. Wels *saeth*, Bret *saez*). The critical factor here was that in some regions of Eurasia the shift from a technology based on chipped-stone tools to those made of bronze saw the disappearance of arrowheads without any replacement of the weapon in the new material.

The shift to metal arrowheads, the probable referent of all our cognate sets, is seen best in the east where bronze arrowheads appear in eastern Europe and especially in the steppe region of Eurasia. Although most Neolithic evidence indicates flint arrowheads, there are occasional finds of metal arrowheads in the final stages of the Tripolye culture of the northwest Pontic region and in the Corded Ware horizon (*c* 3300–2500 BC). The Catacomb culture of the third millennium BC has yielded some evidence for the actual bows, measuring about 90 to 130 cm in length, and these are believed to have been composite bows, i.e., bows constructed of segments of wood fitted together with lashings, gum and bone plates. In addition to the bows there were also discovered the remains of quivers with ten to twenty arrows; the later measured about 45 to 60 cm long. By *c* 2000 BC bronze arrowheads are found at Sintashta, a site regularly associated with the (?Indo-)Iranians east of the Urals. During the first millennium BC arrows of steppe type with three lobes are found widely over the Eurasian steppe and into parts of central Europe. But these were not the earliest metal arrowheads in this region as they are also encountered in middle Bronze Age burials in central Europe, i.e., *c* 1500 BC, and in the later Urnfield culture (*c* 1200 BC). With respect to the Germanic cognate set, bronze arrowheads were also occasionally found in northern Germany and Poland during the late Bronze Age and a quantity of Iron Age and Roman-period bows made of yew have been recovered from a Danish bog.



Bow a. Mycenaean simple segment bow (c 1600 BC); b. Hittite composite angular bow (*c* thirteenth–twelfth century BC); c. Mycenaean double convex bow; d. Scythian bow.

Bronze arrowheads are also known in the Near East from at least the third millennium BC and by the late second millennium there were even occasionally arrowheads of iron. In Anatolia, copper arrowheads are known from the third millennium BC and bronze arrowheads are known among the Hittites which are similar to those of Palestine. New Kingdom Hittites are portrayed carrying bows and the Hittites are credited with revolutionizing warfare in their own region with their application of chariot-mounted archers in battle; they also utilized archers on foot. In Greece arrowheads were fashioned from obsidian in the early Bronze Age but bronze arrowheads are known from the late Bronze Age Mycenaean levels of Knossos in Crete and archers are depicted in Mycenaean art. These Greek bows are generally of the segment-shaped and double convex type but descriptions in Homer of bows made of ibex horn and which are described as *παλίντονος* 'bent-back', has led to the suggestion that they were also employing composite bows.

In India there is evidence of copper arrowheads from the Harappan culture and seals from the same culture depict composite segment bows. Later in the first millennium BC there is abundant evidence for iron arrowheads over much of India. The Indian arrowhead was inserted into a shaft of wood, bamboo or reed. The bow is frequently mentioned as a major weapon in early Indic literature.

From an archaeological perspective, the bow and arrow must have been known to the Proto-Indo-Europeans irrespective of the time or place of their homeland or the more geographically confined clusters of cognate terms. For the period of the fifth to third millennium BC the arrow was one of the primary weapons employed by the peoples of Eurasia until the emergence of close combat weapons, the spear and the sword, in the second and first millennia BC. While all the cognate sets presumably indicate a metal arrowhead, the original referent, depending on the time depth of the underlying proto-form, could just as well have been a stone arrowhead. The probable referent of the bow mentioned in the eastern cognate sets was the composite bow and this might have extended back to PIE times.

See also MEDICAL GOD; WARRIORS. [D.Q.A., J.P.M.]

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BOY *see* SON

BRAIN

***mréghmen-** ~ ***mregh(m)n-o-** 'brain'. [*IEW* 750 (**mregh-m(n)o-*); Wat 43 (**mregh-m(n)o-*); GI 712–713 (**mreg^h-*); Buck 4.203]. OE *bregen* ~ *brægen* 'brain' (> NE *brain*), MHG *brëgen* ~ *bragen* 'brain', Grk *βρεχμός* ~ *βρέχμα* ~ *βρέγμα* 'forehead'. A word of the west and center of the IE world.

***móstr̥** 'brain, marrow'. [GI 713]. Av *mastrəγan-* 'skullwall',

OInd *mastíṣka-* 'brain', *mástaka-* 'head, skull', *mastulunga-* (< **mastr̥-n-ga-?*) 'brain', (Indo-Iranian < **mástr̥(g)*, gen. *mastnás?*), TochA *mäśśunt* (pl.) (< **mest-eu-*) 'marrow', TochB *mrestīwe* (**mostr-* + [later] *-iwe?*) 'marrow'. Probably ultimately related to **mosghos* 'marrow, brain'. Apparently, this is the eastern word for brain while **mréghmen-* is the western.

See also ANATOMY; HEAD. [D.Q.A.]

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BRANCH

k̂óh$_1$kōh$_2$ (gen. ***k̂h̥$_1$kh$_2$ós***) '(forked) branch' (< *'leaves and branch of deciduous tree'?). [*IEW* 523 (**k̂ăkhā*); GI 596 (**k̂^{h}ak^h-*); Buck 8.55]. Goth *hōha* 'plow', OHG *huohhili* 'wooden hook plow made from a curved branch', OPrus *sagnis* 'root', Lith *šakà* 'branch', *šaknìs* 'root', Latv *saka* 'ramification of a tree', *sakas* 'pitchfork', *sakne* 'root', OCS *socha* 'pole; (primitive) wooden plow', Rus *sokhá* '(primitive) plow', *pósokh* 'forked staff', Arm *c'ax* 'branch', NPers *šāx* 'branch, antlers' (the latter two as if from **k̂soh$_1$kōh$_2$*), OInd *śákhā* 'branch'. Archaic in its morphology and geographically widespread; surely PIE in date. In origin a collective noun derived from **k̂éh$_1$kom* 'edible greens'. The semantic variation is intelligible: just as 'branch' in English means fork or other bifurcation as much as anything arboreal, so many of the reflexes of **k̂óh$_1$kōh$_2$* mean '(forked) root' or they mean 'plow' as early and primitive plows were made of tree-trunks or heavy branches such that the forked end of it, or a large, forked secondary branch, served as handles for the plowman. 'Branch' was most probably the early PIE meaning.

k̂ank- 'branch'. [*IEW* 523 (**k̂ank-*); GI 596 (**k̂^{h}ak^h-*)]. OIr *cécht* (< **kankto-*) 'plow', MIr *gēc* (with secondary *g-* rather than *c-*) 'branch', Wels *cainc* (< Proto-Celt **kankū-*) 'branch', ON *hār* (< **hanha-*) 'thole-pin; shark' (from peg-like teeth), Lith *atšankė̃* 'barb; crooked projection from a tree', OCS *sǫkŭ* 'shoot, twig, sprout', Rus *suk* 'branch, knot', OInd *śaṅkú-* 'peg', *śakti-* 'spear'. Similar in shape to the preceding word but not related to it in form. PIE in date.

h$_2$ósdos 'branch'. [*IEW* 785–786 (**ozdo-s*); Wat 46 (**ost-*); GI 175 (**Hos-t^h-*); Buck 8.55]. OHG *ast* 'branch', Goth *asts* 'branch', Grk *ὄζος* 'branch, shoot', Arm *ost* 'branch', Hit *hasduēr* 'twigs, branches'. Compare, with lengthened-grade, OE *ōst* 'knot in wood', MDutch *ōst* 'knot in wood'. Widespread and old in IE. This word and the PIE word for 'nest' (**h$_2$ó-sd-os* and **ni-sd-ós*, respectively) may have been derived from the zero grade of the root 'to sit' (**sed-*), i.e., 'place to perch on, to sit in, etc'. But this idea, despite the prestige of its authors, is problematic. The presence of several words for branch, in any case, suggests a rather fluid situation with a number of interlocking symbolic dimensions yielding various outputs in various stocks for the concrete denotations at issue.

u̯r̥(h$_a$)d- 'root; branch'. [*IEW* 1167 (**u̯(e)rād-*); Wat 78 (**wrād-*); GI 572 (**wr(ā)t'-/wr(o)t'-*); Buck 8.54]. From **u̯r(e)h$_a$d-*: Lat *rādīx* 'root', *rāmus* 'branch', ON *rōt* 'root' (borrowed > OE *rōt* > NE *root*), Alb *rrënjë* (< **u̯rh̥$_a$dnio-*) 'root', Grk *ῥᾱ́διξ* 'branch, palm frond'; from **u̯r̥d-*: OIr *frēn* (MIr *frēm*) (< **u̯r̥dnio-*) 'root', Wels *gwraidd* (< **u̯r̥di̯o-*) 'root', OE *wyrt* 'herb, plant', OHG *wurz* 'plant', Goth *waúrts* 'root', Grk *ῥίζα* (< **u̯redih$_a$-*) 'root', *ῥάδαμνος* 'branch, shoot', perhaps TochB *witsako* (if < **u̯r̥di-k-eh$_a$-* with loss of the expected **-r-*) 'root'. Though the difference in form is not well understood, this is a word that in one shape or another is universal in the west of the IE world and common in the center. It is at least of late PIE date. The Greek root-branch symbol intersects in some unrecapturable way with another Greek 'branch' word *ὄζος*; perhaps OInd *vr̥dh-* 'grow' also belongs here (cf. TochA *tsmār* 'root' from *tsäm-* 'grow'). The alternative meanings 'branch' and 'root' of either the same word or two related words in the same language, or in different languages, seems, in the case of both **u̯r(h$_a$)d-* and **k̂óh$_1$kōh$_2$*, to elaborate an early IE analogy, probably a semantic near-universal, between the root and branch, i.e., the subterranean and aerial extensions or extremities of a plant, a ghostly sememe of 'branching arboreal extension'.

h$_4$loĝ- 'branch'. [*IEW* 691 (**loĝ-*); GI 563–564]. OCS *loza* 'vine, tendril, shoot', Rus *lozá* 'vine, tendril, shoot', Grk (Hesychius) *ὀλόγινος* 'branchy' (assimilated from **alóginos?*), Hit *alkista(n)-* 'branch', Av *razura-* 'forest, thicket' (< *'branchy place'), NPers *raz* 'grapevine', Oss *ræzæ* 'fruits, vegetables'. Widespread and early in IE.

gu̯ésdos 'branch'. [*IEW* 480 (**gu̯oz-do-*)]. ON *kvistr* 'branch', OHG *questa* 'tuft of leaves, brush for sprinkling holy water, broom', Alb *gjeth* 'leaf', and, *o*-grade in a collective meaning: OSerb *gvozd* 'forest', OPol *gwozd* 'mountain forest'. Cf. Norw/Danish *kvas* 'small branches cut from a tree'. A word of the west and center of the IE world.

u̯r̥b- 'branch, sprig, twig'. Lat *verbēna* 'leaves and saplings for sacral use', (pl.) *verbera* 'thong, lash', Lith *vir̃bas* 'twig, sprig, switch', Grk *ῥάβδος* 'twig, rod', *ῥάμνος* 'thorn-bush'. A word of the west and center of the IE world, perhaps ultimately related to the previous word.

sku̯éis (gen. ***skui̯ós***) '± needle and/or thorn (perhaps branch)'. [*IEW* 958 (**sk(h)u̯oi̯-*)]. OIr *scē* (gen. *sciad*) 'hawthorn', Wels *ysbyddad* 'hawthorn' (Celtic < **sku̯ei̯at-*), Lith *skujà* 'fir-needle and cone', Latv *skujas* 'a firwood', Rus *khvojá* ~ *khvoj* 'needles and branches of a conifer' (with new full grade and metathesis of initial cluster, i.e., **ksu̯oi̯o/eh$_a$-*). At least a word of the IE northwest; perhaps the coniferous counterpart to **k̂óh$_1$kōh$_2$*.

See also PLANTS; PLOW; TREES; VEGETABLES. [P.F., D.Q.A.]

Further Reading

Knobloch, J. (1987) *Ast*, *Ranke* und *Rabe* in indogermanischen Sprachen. *IF* 92, 29–32.

BRAVE

dhers- 'brave'. [*IEW* 259 (*dhers-*); Wat 14 (**dhers-*); Buck 16.52]. OE *dear* 'dare' (> NE *dare*), OHG *gater* 'dare' (< Gmc

*dhorso-), Goth _ga-dars_ 'dare', OPrus _dyrsos_ 'able', Lith _drę̃sù_ 'dare', Latv _drùošs_ 'bold, safe, secure', Grk _θέρσος_ 'bravery', Av _darši-_ 'brave', OInd _dhṛṣṇóti_ 'is bold, dares'. Although sometimes compared, Lat _īn-festus_ (if < _*in-ferstus_) 'hostile' is controversial. The root is also found inflected in the zero-grade, e.g., _*dhr̥stis_: OE _dyrst_ 'bold', OHG _geturst_ 'courage, bravery', OInd _dhṛṣṭí-_ 'boldness' (also showing a zero-grade is Grk _θάρσος_ 'courage, boldness'); and _*dhr̥sus_: Lith _drąsùs_ 'brave', OCS _drŭzŭ_ 'brave' (with problematic voicing of _*s_ > _z_), Grk _θρασύς_ 'bold, spirited', OInd _dhṛṣú-_ 'brave'. Hit _dassus_ 'heavy, strong' is sometimes derived from _*darsus_ but such a derivation is very dubious. The root is well attested and very likely of PIE status although precise formations vary considerably across dialects.

See also WARRIORS. [J.C.S.]

BREAK

***bheg-** 'break' (pres. ***bhenégti**). [_IEW_ 114–115 (_*bheg-_); Buck 9.26; BK 22 (_*bak'-/*bək'-_)]. OIr _boingid_ 'breaks', Lith _beñgti_ 'to finish, end', Latv _bèigt_ 'end', Arm _bekanem_ (with nasal suffix rather than infix) 'break', OInd _bhanákti_ 'breaks'. The underlying root of this present stem is _*bheg-_ 'break'. The root and stem are both securely reconstructible to PIE.

***bhreĝ-** 'break'. [_IEW_ 165 (_*bhreĝ-_); Wat 9 (_*bhreg-_); Buck 9.26]. Lat _frangō_ (with nasal infix) 'break', OE _brecan_ 'to break' (> NE _break_), OHG _brehhan_ 'to break', Goth _brikiþ_ 'breaks', OInd _giri-bhráj-_ 'breaking out of the mountains'. Some doubt exists to the meaning of the Old Indic compound; if it does indeed mean 'breaking out of the mountains' then the case for reconstructing the root to the proto-language is strengthened. Otherwise, the root is probably of late, western, dialectal status. Although some have connected this root with _*bhrag-_ 'clatter, make noise', such an etymology is very unlikely.

***bhreus-** 'break, smash to pieces'. [_IEW_ 171 (_*bhreu-s-_); Wat 9 (_*bhreus-_); BK 3 (_*bur-/*bor-_)]. OIr _bruid_ (_DIL bruid_) 'breaks, crashes', MWels _breu_ 'brittle', Lat _frustum_ 'piece', OE _brȳsan_ 'crush' (cf. NE _bruise_), Alb _breshër_ (Gheg _breshën_) 'hail'. The relatively limited spread of the cognates suggests a late word. The form _*bhreus-_ may, however, be an extended form of _*bhreu-_ 'cut, break up' which in turn is probably an extension of _*bher-_ 'cut' which would suggest that the basic root is quite early.

***h₃lem-** 'break'. [_IEW_ 674 (_*lem-_); Wat 36 (_*lem-_)]. OIr _ro-laimethar_ (_DIL lamaid_) 'dares, ventures', Wels _llafasu_ 'dare, venture', ON _lemja_ 'to lame, cripple', OE _lemian_ 'to lame, cripple', OHG _lemmen_ 'to lame, cripple', Latv _lemesis_ 'plowshare', OCS _lomljǫ_ 'break', Rus _lom_ 'scrap, fragment; crowbar', Alb _lemë_ 'threshing floor', Grk _νωλεμές_ 'without a break, continually'. The distribution secures this form at least to the west and center of the IE world.

***leuĝ-** 'break, break off'. [_IEW_ 686 (_*leuĝ-_); Wat 37 (_*leug-_); Buck 9.26]. OIr _lucht_ 'load, cargo', Wels _llwyth_ 'load, burden', Lat _lūgeō_ 'mourn', OE _to-lūcan_ 'to pull or tear to pieces', OHG _liohhan_ 'to tear, pluck', Lith _láužti_ 'break', Latv _laûzt_ 'break', Alb _lungë_ 'knot', Grk _λευγαλέος_ 'unhappy', Arm _lucanem_ 'loosen', Av _fra-uruxti_ 'destruction', OInd _rujáti_ 'breaks, shatters', TochB _lakle_ 'pain, suffering'. The root is securely reconstructed to PIE. The first element of the Greek compound _ἀλυκτοπέδη_ 'shackles, fetters' has been cited in connection with this root (_ἀλυκτο-_ 'unbreakable' + _πέδη_ 'fetter'), but such a connection is doubtful. It is interesting to note that both the Greek and Latin formations based on this root refer to unhappiness or grief, suggesting some metaphorical link between unhappiness and destruction which is also indicated in the Tocharian cognate. The precise nature of the link is unclear, some scholars suggesting that it involves the often violent manifestation of grief while others suggest a metaphor of 'breaking down mentally'.

***reup-** 'break'. [_IEW_ 870 (_*reup-_); Wat 55 (_*reup-_ ~ _*reub-_); Buck 9.26]. Lat _rumpō_ 'break', ON _rjūfa_ 'to break', OE _*rēofan_ (past ptcpl. _rofen_) 'to break' (cf. NE _rift_), Lith _rūpėti_ 'to grieve, afflict', OInd _rúpyati_ 'suffers racking pain'. If the Old Indic form belongs with this cognate set, then the root is PIE; otherwise, it may be a later formation.

***u̯reh₁ĝ-** 'break, tear to pieces'. [_IEW_ 1181–1182 (_*u̯rēĝ-_); Wat 78 (_*wrēg-_); Buck 9.26]. Lith _rėžti_ 'to cut, scratch', OCS _rězati_ 'to cut, hew', Rus _rézatĭ_ 'to cut, slash', Grk _ῥήγνῡμι_ 'break', Arm _ergicane-_ 'tear, rip up'. The Armenian form points to a vocalism _*-ei-_ and hence may not belong to this cognate set. The Balto-Slavic and Greek forms correspond fairly well and the reconstruction is moderately secure to at least the central area.

?*bhres- 'burst'. [_IEW_ 169 (_*bhres-_); Wat 9 (_*bhres-_)]. MIr _brosc_ 'crash, din', ON _bresta_ 'to burst, crack', OE _berstan_ 'to burst' (> NE _burst_), OHG _brestan_ 'to burst'. The Middle Irish form is probably not cognate but rather a result of the form _blosc_ 'noise' being influenced by the initial cluster of _bris(s)id_, _bronnaid_, and _bruid_, all of which mean 'breaks'. If the Irish form is discounted, then the root is only attested in Germanic.

See also GRIEVE. [M.N.]

BREAST

***pérḱus** (gen. ***pr̥ḱéus**) '± breast, rib'. [_IEW_ 820 (_*perḱ-_); GI 712]. Lith (dial.) _pìršys_ 'forepart of horse's chest', OCS _prŭsi_ (pl.) 'breast, chest', Rus _pérsi_ (pl.) 'breast, chest (especially of a horse)', Alb _parz(ëm)_ 'breast', Av _parəsu-_ 'rib', _parəsu-_ 'rib, side', OInd _párśu-_ 'rib', _pārśvá-_ 'region of the ribs, side'. An eastern term in late PIE.

Female

***psténos** 'woman's breast, nipple'. [_IEW_ 990 (_*speno-_); GI 365; Buck 4.41]. Grk (Hesychius) _στήνιον_ 'breast', Arm _stin_ 'woman's breast', Av _fštāna-_ 'woman's breast', OInd _stána-_ 'woman's breast, nipple', TochA _päśśäṃ_ (dual) 'woman's breasts', TochB _päścane_ (dual) 'woman's breasts'. With the following entry this word looks to be a strong candidate for PIE status.

***speno-** '(woman's) breast, nipple'. [_IEW_ 990 (_*speno-_);

Buck 4.41]. OIr *sine* (< **spenijo-*) 'teat', ON *speni* 'teat, nipple', OE *spanu* 'breast', OHG *spunni* 'nipple', OPrus *spenis* 'teat', Lith *spenỹs* 'teat'. This word looks to be a western innovation, by metathesis and simplification of the heavy consonant cluster, of the (presumably more archaic) preceding entry, i.e., **pst* > **sp*.

***$h_1$óu$h_x$dhr̥** (gen. ***h_1u$h_x$dhnós**) 'breast, udder'. [*IEW* 347 (**ēudh-*); Wat 18 (**euədh-*); GI 486 (**eud^h-*); Buck 4.42]. Lat *ūber* 'udder, teat, (lactating) breast', *ūber* 'richness, fullness; fruitful, copious, rich', ON *jūgr* 'udder', OE *ūder* 'udder' (> NE *udder*), OHG *ūtar* 'udder', Lith *pa-ũdrė* 'abdomen', *ūdróti* 'become big, get pregnant', Grk *οὖθαρ* 'udder', OInd *ū́dhar* (gen. *ūdhnás*) 'udder'. Cf. Rus *výmja* 'udder', SC *vȉme* 'udder' (< **ūdh-men-*). Old in IE, primarily referring to 'udder' but also used more generally and symbolic of richness and fullness. From **$h_1$euh$_x$dh-* 'swell (with fluid)'.

***dheh$_1$lus** 'nourishing, suckling' and ~ ***dhh$_1$ileh$_a$-** 'teat, breast'. [*IEW* 242 (**dhi-lo-*); Wat 13 (**dhē(i)-*); GI 487]. Lat *fēlīx* 'fruitful, prosperous, happy', Alb *dele* (< **dhoh$_1$liįeh$_a$-*) 'sheep, ewe', Grk *θῆλυς* 'nourishing', OInd *dhārú-* 'suckling'; MIr *deil* (*DIL dela*) 'teat', ON *dilkr* 'suckling lamb; young of animal', OE *delu* 'teat, nipple', OHG *tila* 'female breast', and with new lengthened grade in the further derivative in Latv *dīle* 'suckling calf'. All of these can be taken as rather banal derivatives of **dheh$_1$(i)-* 'suckle'. We may have a northwestern (Celtic, Germanic, Baltic) and late IE word for 'teat, breast' in **dhh$_1$ileh$_a$-*.

***pap-** '± mother's breast, teat'. [*IEW* 91 (**ba^{x}b-*); Wat 47 (**pap-*)]. Lat *papilla* 'teat, nipple, breast', MHG *buoben* 'breast', Lith *pāpas* 'breast', OInd *pippala-* 'nipple'. Probably not a real "word" at any point in PIE but rather a continuously reinvented nursery term (cf. NE *pap*, *boob*).

See also ANATOMY. [D.Q.A.]

BREATHE

***h$_a$énh$_1$mi** 'breathe'. [*IEW* 38 (**an(ə)-*); Wat 2 (**anə-*); GI 388 (**anH-*); Buck 4.51; BK 369 (**an-ah̄-/*ən-ah̄-*)]. Goth *uz-anan* 'breathe one's last', OInd *ániti* 'breathes', TochB *anāsk-* 'breathe, inhale'. Though not widely attested the geographical spread indicates great age within IE.

***h$_1$eh$_1$tmén-** 'breath'. [*IEW* 345 (**ēt-mén-*); Wat 17 (**ētmen-*); GI 388 (**anH-*); Buck 4.51; BK 369 (**an-ah̄-/*ən-ah̄-*)]. OE *ǣðm* 'breath', OHG *ātum* 'breath', OInd *ātmán-* 'breath, soul', TochA *āñcäm* 'self, soul', TochB *āñme* 'self, soul' (Toch < **antmen-*, a conflation of this etymon and the next one). See also **h$_1$eh$_1$tr-* '± lung, internal organ'.

***h$_a$énh$_1$mos** 'breath'. [*IEW* 38–39 (**an(ə)-*); Wat 2 (**anə-*); GI 388 (**anH-*); Buck 4.51; BK 369 (**an-ah̄-/*ən-ah̄-*)]. Lat *animus* 'spirit, wind', Grk *ἄνεμος* 'wind', Arm *holm* (< **honm*) 'wind', perhaps OInd *ánila-* (if < **anima-*) 'wind' (for Tocharian, see previous entry). (Cf. OIr *anāl* 'breath' and Wels *anadl* 'breath' from Celt **h$_a$enh$_1$-tlo-*). From **h$_a$enh$_1$-* 'breathe'. It seems reasonable that this word, based as it is on a clearly attested verb 'breathe', is a later creation than **h$_1$eh$_1$tmén-* which has no such underlying verb. Both words, however, show a wide geographical spread and, as Tocharian demonstrates, must have existed, in at least a part of the PIE world, side by side.

***k̑u̯ésh$_x$mi** 'breathe deeply, sigh'. [*IEW* 631–632 (**k̑u̯es-*); Wat 34 (**kwes-*)]. Lat *queror* 'complain, lament, bewail', Av *suši* (dual) 'the lungs', OInd *śvásiti* ~ *śvásati* 'breathes, sighs', TochB *kwās-* 'lament, bewail'. With new long grade (**k̑u̯ēsh$_x$-*): ON *hvæsa* 'hiss, sizzle, snort' (borrowed > NE *wheeze*), OE *hwǣst* 'blowing'. Again the geographical spread indicates PIE status for this word.

***dhu̯ésmi** 'breathe, be full of (wild) spirits' (Balto-Slavic 'breathe, exhale; expire'). [*IEW* 268–271 (**dheu̯es-*); Wat 14 (**dheus-*); GI 388 (**d^{h}eu-H/s-*)]. OIr *dāsacht* (< **du̯ō stāko-*) 'rage, fury', Lat *furō* (< **dhuse/o-*) 'rage', *bēlua* (< **dhu̯éslu-* with dialectal *b-* rather than **f-*) 'wild animal', OE *dysig* 'confused, dizzy' (> NE *dizzy*), OHG *tusik* 'confused' (< **dhúsiko-*), MHG *tuster* (< **dhustro-*) 'ghost, spectre', OE *dwǣs* 'foolish', MHG *twās* 'fool, evil spirit', and *getwās* 'ghost, spectre; foolishness' (< **dhu̯éso-*), Lith *dvesiù* 'perish, die (of animals)', *dusàs* 'heavy sighing, asthma', *dvasià* 'ghost, spirit', OCS *dŭchnǫti* 'exhale, sigh', *dvachati* 'puff, pant', Alb *dash* 'ram' (< **du̯oso-* 'animal'), Grk *θυίω* 'rage', *θέειον* 'sulphur (vapor)', Hit *tuhhā(i)-* 'gasp', TochB *col* (< **dhu̯ēslu-*) 'wild (of animals)'. With new full-grades: ON *dȳr* '(wild) animal', OE *dēor* '(wild) animal' (> NE *deer*), OHG *tior* '(wild) animal' (Gmc < **dheusóm*), Lith *daũsos* (pl.) 'upper air, paradise', OCS *duchŭ* 'breath, spirit', Rus *duch* 'breath, spirit'. Widespread in IE though not universal; probably only secondarily the usual word for 'breathe' in some IE areas. Related to **dheu-* 'breathe (one's last)'. It has been suggested that the underlying semantic difference between **dhu̯ésmi* and **h$_a$énh$_1$mi* might be explained by presuming that the first meant 'exhale', hence its association with 'breathing one's last' while the latter, which lacks such connotations, may have indicated 'inhalation'.

***pneu-** '± snort, sneeze'. [*IEW* 838–839 (**pneu-*); Wat 52 (**pneu-*); Buck 4.51; BK 560 (**nap[^{h}]-/*nəp[^{h}]-*)]. ON *fnȳsa* 'puff, snort', OE *fnēosan* 'sneeze', Grk *πνέω* 'breathe'. Probably onomatopoeic in origin and only in Greek has it become the ordinary word for 'breathe'.

***bhes-** '± blow'. [*IEW* 146 (**bhes-*); Wat 8 (*bhes-*)]. Grk *ψῡχή* 'breath, spirit', OInd *-psu-* 'breath'. Probably onomatopoeic in origin; distribution suggests a late dialectal term in PIE.

See also ANATOMY; BLOW; COUGH; DEATH; LUNG; NOSE; SIGH. [D.Q.A.]

BRIDE-PRICE

***u̯edmo/eh$_a$-** 'bride-price'. [*IEW* 1116 (**u̯ed-mno-*); GI 660 (**Hwed^h-mno-*); Szem 32.7.3.2.2]. OE *wituma* 'bride-price', OHG *widamo* 'dowry', OCS *věno* (< Proto-Slavic **vědnom* < **u̯ednom*) 'bride-price', Grk *ἕδνον* (< **ϝέδμον*) 'bride-price'. A word of the west and center of the IE world.

The family of the Indo-European bride received some form of economic consideration from the groom or his family. This

custom, the bride-price, is well-documented elsewhere and is attested in a number of cognates from Germanic, Slavic and Greek. Accordingly, an Indo-European proto-form, the neuter noun **u̯edmo-*, may be reconstructed on the basis of OCS *věno* (< Proto-Slavic **vēdnom* < PIE **u̯edmon*) 'bride-price' and Gk *ἕδνον* (< **ϝέδμον*) 'bride-price'. OE *wituma* 'bride-price' with various spellings of the stem vowel and Fris *wetma* point to Proto-Gmc **wet(u)mōn*, an *n*-stem. The shifting medial vowel of Old English *weotoma* and Old High German *widamo, widemo* results from oblique forms of the stem, the English and German reflecting the syllabic nasal of the oblique, **wetm̥-n-*, and the Frisian the consonant of the nominative, **wetmōn*. The occasional high stem vowel [i] seen in OE *wituma*, Fris *witma* and OHG *widomo* results from contamination with **widuwō* 'widow'. The [d] of OHG probably reflects Low German influence.

The proto-form has often been wrongly taken as derived from **u̯edh-* 'lead', a root frequently used in connection with marriage to either convey the concept of simply 'leading' the woman away from her family into that of the husband's or, more aggressively, forcefully carrying off the wife away from her family by abduction. A simple derivation from **u̯edh-*, however, cannot be sustained as Grk *δ*, the Gmc **t* and OCS lengthening by Winter's Law clearly points to PIE **d* and not **dh*, nor is there a need to reconstruct a complex nasal cluster **u̯ed-mno-*. In such a case the [m] would always have been syllabic. Normal processes of assimilation and paradigmatic leveling of the productive Germanic *n*-stem accounts for all observed variations. Alternatively, Szemerényi has suggested that a common form underlying both the word for 'bride-price' and for 'lead away in marriage' might be sustained if one presumed a PIE **h$_x$u̯ed-* which saw a loss of laryngeal in the words for 'bride-price' and metathesis (**h$_x$u̯ed-* > **u̯edh$_x$-*) in the verb 'lead away in marriage' (cf. PIE **h$_2$óst-* 'bone' but **osth$_x$-* in OInd *ásthi* 'bone'). Under this hypothesis, the alternative Greek form ***ἄεδνον*** might more or less directly reflect **h$_2$u̯ed-no-*.

Later writers often mistake the custom of bride-price for 'dowry' and the word is thus often misglossed. The bride-price reflects the goods presented from the male or his kin group to the family of the bride which rounds off the transaction between the two parties. This payment naturally suggests that the family of the bride are deprived of her services and hence she has relocated in marriage away from her own parents. The dowry, on the other hand, is the property of the wife which she takes into marriage and provides her with an element of financial security against a negligent husband or one who dies prematurely; it might also serve to assist the married party in establishing a household but it did not represent the social transaction between the two families. There is no clear evidence for a PIE 'dowry'.

See also Exchange; Lead[1]; Marriage. [M.E.H.]

BRIDLE see REINS

BRIGHT

****leukós*** 'light, bright, clear'. [*IEW* 687–689 (**leuk-*); Wat 37 (**leuk-*); GI 779 (**l(e)uk^h-*); Buck 15.52; BK 580 (**law-/ *ləw-*)]. OIr *luacht* (*DIL lōch*) 'glowing white', *lūacha(i)r* 'brightness, gleam', Wels *llug* 'bright', Lith *laũkas* 'blazed, with a white spot on the forehead (said of animals)', Grk ***λευκός*** 'light, bright, clear', OInd *rocá-* 'shining, radiant', TochB *lyukemo* 'bright', *lyūke* 'light'. A derivative of **leuk-* 'shine'. Widespread and old in IE.

****g^{w}haidros*** 'bright, shining'. [*IEW* 488 (**g^{u}hai̯-d-ro-s*); Buck 15.57]. Lith *gaidrùs* ~ *giẽdras* 'fine, clear (of weather); bright, cheerful (of mood); clear, limpid (of water)', *gaidrà* 'cloudless sky, hot weather', Latv *dzidrs* 'azure', Grk ***φαιδρός*** 'beaming (with joy), cheerful' (cf. Grk ***φαίδιμος*** 'bright, shining, glistening; famous, glorious'). At least a word of the central part of the IE world.

****(s)koitrós*** ~ ****kitrós*** 'bright, clear'. [*IEW* 916 (**(s)kāi-*); Wat 58 (**skeəi-*)]. ON *heið* 'bright sky', *heiðr* 'clear', OE *hādor* 'clear', OHG *heitar* 'clear', Lith *skaidrùs* 'bright, clear (of weather; clear, limpid (of water)', Latv *skaidrs* 'clear' (the unexpected shape of the Baltic words may reflect a voicing dissimilation from **k..t* > *k..d*), Av *čiθra-* 'clear', OInd *citrá-* 'excellent, bright, variegated'. The Germanic and Baltic words, on the one hand, and the Indo-Iranian, on the other, look to be independent creations of an unattested noun **(s)kóitr̥* 'brightness', related to the **koitús* seen in ON *heiðr* 'honor, rank', OE *hād* 'rank, status', *-hād* '-hood' (> NE *-hood*), OHG *heit* 'rank, status', *-heit* '-hood', Goth *haidus* 'way, manner' (< 'appearance'), OInd *ketú-* 'brightness, light, apparition, form'. This complex is, as a whole, of PIE date.

?*ĝlain- 'bright'. [*IEW* 366–367 (**ĝel-*); Wat 18–19 (**gel-*)]. OE *clǣne* 'clean' (> NE *clean*), *clǣnsian* 'purify, cleanse' (> NE *cleanse*), OHG *kleini* 'shiny, fine', Grk (Hesychius) *γλαινοί* 'star-shaped ornaments'. The Greek attestation is weak; just possibly a late word of the IE west and center.

See also Light[1]; Shine; White. [D.Q.A.]

BROAD

****pḷth$_2$ú-*** (perhaps ****plóth$_2$us***, gen. ****pḷth$_2$óus***) 'broad, wide'. [*IEW* 833–834 (**plăt-*); Wat 51–52 (**plat-*); GI 683–684 (**p^h(e)l-H-t^h-*); Buck 12.61]. Lith *platùs* 'broad', Grk ***πλατύς*** 'broad', Av *parəθu-* 'broad, wide', OInd *pr̥thú-* 'broad, wide'. Cf. the related abstract noun **pléth$_2$es-* in OIr *leth* 'side (i.e., 'broad part of body'); half', Wels *lled* 'breadth', OCS *plesna* 'sole of foot', ORus *polŭ* 'half', Rus *pol* 'half', Polab *pöl-t'üpě* 'thirty' (< **pol-* 'half' + *kopy* 'sixty'), LowSorb *poł sta* 'fifty' (< **pol* 'half; side' + **k̑m̥tóm* 'hundred'), Grk ***πλάτος*** 'breadth', Av *fraθah-* 'breadth', OInd *práthas-* 'breadth'. From **pleth$_2$-* 'spread'. Cf. also Hit *palhi-* 'broad, wide'.

****u̯érh$_x$us*** (gen. ****u̯r̥h$_x$óus***) 'broad, wide'. [*IEW* 1165 (**u̯er-*); Wat 77 (**werə-*); Buck 12.61; BK 482 (**wir-/ *wer-*)]. Grk *εὐρύς* 'broad, wide', Av *vouru-* 'broad, wide', OInd *urú-* 'broad, wide'. A late southeastern dialectal term in the IE world.

See also Half; Heap; Spread. [D.Q.A.]

BROTH

i̯ūh$_x$s- 'broth'. [*IEW* 507 (**i̯ūs-*); Wat 79 (**yū-s-*); GI 608 (**yeu-s*)]. Lat *iūs* 'broth', OPrus *juse* 'meat broth', Lith *jūšė* 'fish soup', OCS *jucha* 'soup, broth', Rus *ukhá* 'broth, fish soup', Grk *ζύμη* (< **i̯uh$_x$s-meh$_a$-*) 'leavening', NPers *jūšānda* 'broth', OInd *yū́ṣ-* 'soup, broth, the water in which pulses of various kinds have been boiled'. Widespread and old in IE. From **i̯euh$_x$-* 'mix, join together'.

?*korm- ~ *krem- 'broth, mash?'. [*IEW* 572 (**k(e)r-em-*); GI 608 (**k^{h}r-em-*)]. OIr *cuirm* 'beer', MWels *cwrwf* 'beer', Gaul *κοῦρμι ~ κόρμα* type of beer, Lat *cremor* 'broth, pap', OCS *krŭma* 'fodder', Rus *korm* 'fodder', OInd *karam-bhá-* 'barley porridge; soup'. It is not certain that all these words belong together, certainly no single proto-form can be reconstructed. Perhaps a word of PIE antiquity.

See also Beer; Boil; Ferment; Food. [D.Q.A.]

BROTHER

****bhréh$_a$tēr*** '± brother (?father's brother's son, cousin)'. [*IEW* 163–164 (**bhrā́ter-*); Wat 9 (**bhrāter-*); GI 666 (**b^{h}ra-Ht^{h}er-*); Buck 2.44; Szem 5.1; Wordick 134; BK 6 (**bar-/ *bər-*)]. OIr *brāthair* 'brother, kinsman, cousin, tribesman', Wels *brawd* 'brother', Lat *frāter* 'brother', *frātria* 'brother's wife', Venetic (dat. sg.) *vhraterei* 'to the brother', ON *brōðir*, 'brother', OE *brōðor* 'brother' (> NE *brother*), Fris *brōther* 'brother', OSax *broðar* 'brother', OHG *bruoder* 'brother', Goth *brōþar* 'brother', CrimGoth *bruder* 'brother', OPrus *brāti* 'brother', Lith *brólis* (*broterė̃lis*) 'brother', Latv *brālis* 'brother', OCS *bratrŭ* 'brother, cousin', ORus *brat(r)ŭ* 'brother, cousin', SC *brat* 'brother', Czech *bratr* 'brother', Grk (Ionic and Hesychian) *φρήτηρ ~ φρήτωρ* (Doric also *φρᾱτήρ*) 'brother, member of a phratry, (fellow) clansman, kinsman', Arm *ełbayr* 'brother', Phryg (pl.) *bratere* 'brothers', Av *brātar-* 'brother', OPers *brātar-* 'brother', Pashto *vrōr* 'brother', Oss *ærvad* 'brother; relative', OInd *bhrā́tar-* 'brother', Ashkun *bŕa* 'brother', Waigali *brā* 'brother', Prasun *waya* 'brother', Kati *bŕā* 'brother', TochA *pracar* 'brother', TochB *procer* 'brother'.

The lexeme 'brother' is one of the most widespread of IE kinship terms, lacking in only two branches: Alb *vëlla* 'brother' which reflects Proto-Alb **wəláðā* (metathesized < **əwadl-ā* < **awá-del-* 'mother's brother's son') and Anatolian (Hit *nēgna-*, Luv **nāna/i-*'brother' [cf. *nāni(ya)-* 'brotherly'], and Lycian *nēne/i* 'brother' are of obscure origin). In a third branch, Greek, the original term survives with the meaning 'kinsman' and is replaced by *ἀδελφεός* (< **sm̥-g^{w}elbh-ei̯o-*) 'co-uterine', an indication that the IE term originally designated more people than the male offspring of ego's parents. The use of the word for 'brother' as a confraternity can also be found in certain religious institutions of ancient Italy such as the *frātrēs arvalēs* 'Arval Brothers' and in the other west European languages (e.g., Old Irish, New English) where it is employed to designate members of Christian religious orders. The extended use of this term to patrilineal parallel cousins can also be found in Celtic where OIr *brāthair* indicates not only 'brother' but also 'kinsman, cousin; fellow-member of the same kindred-group'. A wide use is also to be seen in Indic and the term is extended to all cousins in Slavic while the use of Gk *φρήτηρ* as 'kinsman', as well as the use of terms derived from 'brother' for 'cousin' in Lithuanian (*pusbrolis*) also indicates its application to a wider set of relations. Given the wide range of individuals who might be included under the heading of **bhréh$_a$tēr*, the more specific designation of the 'brother' as employed in modern English usage required the creation of explicit qualifiers, e.g., Lat *frāter germanus* 'brother (of the same stock)' or Grk *ὁμο-πάτριος* 'of the same father' = OPers *hamapitā* 'of the same father'.

The proto-form **bhréh$_a$tēr* has stimulated abundant etymological speculation as to its deeper formation, e.g., the long dismissed (and completely inadmissible) attempt to compare it with OInd *bhartā́r-* 'bearer, preserver, protector, husband' and derive it from a PIE 'protector (of his sisters?)'. More recently, O. Szemerényi has analyzed the word as **bhr-* (the zero-grade of **bher-* 'carry, bear') + **h$_2$eh$_x$tr̥* 'fire'. The underlying sense would then be 'fire-bearer' or, better, 'fire-tender', the presumption being that the young males of a family would be delegated the task of procuring firewood and taking care of the household fire. For a word which is likely to be so deeply embedded in the antiquity of the evolution of PIE, such speculations are hardly convincing.

See also Kinship; Sister. [M.E.H.]

BROTHERHOOD

?*bhreh$_a$tr̥i̯om ~ *bhreh$_a$tri̯eh$_a$- 'brotherhood'. [*IEW* 163–164 (**bhrā́ter-*); cf. Wat 9 (**bhrāter-*); cf. GI 666 (**b^{h}raHt^{h}er-*)]. OCS *bratrĭja* 'brotherhood', Grk *φρατρία* 'brotherhood', OInd *bhrātr̥yam* 'brotherhood'. 'Brotherhood' is reflected as a neuter noun in Indic. The Slavic and Greek feminines may arise from older collective neuter plurals (< **bhreh$_a$tri̯eh$_a$-*). Both Slavic and Greek have apparently also remodeled the form on the basis of the oblique stem zero-grade without the syllabic *-r̥-* found in Sanskrit. In light of these discrepancies, it is possible that the form is a later innovation and not the relic of a PIE term.

See also Age Set; Brother; Companion. [M.E.H.]

BROTHER-IN-LAW

****daih$_a$u̯ḗr*** 'husband's brother'. [*IEW* 179 (**dāi̯u̯ḗr*); Wat 10 (**daiwer-*); GI 662 (**t'aiwer-*); Buck 2.65; Szem 24; Wordick 219–220]. Lat *lēvir ~ laevir* (with *d* replaced by ?Sabine *l*) 'husband's brother', OE *tācor* 'husband's brother', Fris *tāker* 'husband's brother', OHG *zeihhur* 'husband's brother', Lith *dieverìs* 'husband's brother', Latv *diẽveris* 'husband's brother', OCS *děverĭ* 'husband's brother', Pol *dziewierz* 'husband's brother', Rus *déverĭ* 'husband's brother', Grk *δᾱήρ* (< **δαjαϝήρ*) 'husband's brother', Arm *taygr* 'husband's brother', Pashto *lēvar* 'husband's brother', OInd *devár-* 'husband's brother'. Distribution guarantees PIE antiquity.

?*si̯ō(u)ros 'wife's brother'. [*IEW* 915 (**si̯ē[u]-ro-*); GI 663; Szem 27]. OCS *šurĭ* 'wife's brother', SC *šūra* 'wife's brother', Arm *hor* 'son-in-law', OInd *syālá-* 'wife's brother'. This

traditional set has been challenged by Szemerényi who has suggested that the Slavic words may be derived from **seuriio-*, a *vṛddhied* form (**seuro-*) of PIE **sū-* 'woman, wife', i.e., a term used to denote males related by way of their wife. A similar origin for the Old Indic word (< **s(u)iēlo-*) has also been suggested. The traditional reconstruction still seems more likely. A word of the center and east of the IE world.

?*suēḱurós 'wife's brother'. [Wordick 185–186]. Fris *swāger* 'wife's brother', OHG *swāgur* 'wife's brother', OInd *śvāśura-* (< **svāśura-*) 'pertaining to the father-in-law' (the presence of *śvāśuri-* 'grandson of the father-in-law' may imply an Old Indic noun **śvāśará-* 'father-in-law'), Kashmiri *hahar* 'wife's brother', Sindhi *hūrā* 'spouse's brother'. A derivative of **suéḱuros* 'father-in-law', perhaps independent in Germanic and Indic. The derivative's restriction to 'wife's brother' parallels the derivatives of **h₂euh₂os* 'grandfather' such as Lat *avunculus* 'mother's brother'.

****sueliion- ~ *suelihₓon-*** 'wife's sister's husband'. [*IEW* 1046 (**sue-lo-*); Szem 27; Wordick 208]. ON *svili* 'wife's sister's husband', Grk *εἰλίονες* < **ϝελίονες* 'wife's sisters's husbands', (Hesychius) *ἀέλιοι* 'wife's sisters' husbands' (< **sm̥-suelioi* '± co-brothers-in-law'). Distribution suggests a word of the northwest and center of the IE world. As with the preceding word, Szemerényi has suggested that this form is built on **sū-* 'woman, wife'.

****ĝ(e)m(hₓ)ros*** 'sister's husband, son-in-law'. [*IEW* 369 (**ĝem(e)-*); cf. Wat 19 (**gemə-*); GI 664 (**ĝ'en-*); Szem 20; Wordick 241–242]. Lat *gener* (< **ĝem-er-*, possibly under the influence of *genere* 'beget, bear, bring forth') 'daughter's/sister's husband', Grk *γαμβρός* (< **gameros* or < **gamró-* < **ĝm̥ró-*) 'sister's husband'. Another form **ĝ(e)mhₓ-tēr* can be seen in Lith *žéntas* 'daughter's/sister's husband', OCS *zętī* 'daughter's/sister's husband', Rus *zjatī* 'daughter's/sister's husband, husband's sister's husband', and Alb *dhëndër* (Gheg *dhândërr*) 'groom'; cf. also Av *zāmātar-* 'son-in-law', OInd *jāmātar-* 'son-in-law'. Subject to morphological rebuilding in the various stocks that attest it, to the point that the actual PIE form cannot be reconstructed. However, it is nevertheless widespread and old.

?*suóiniios 'wife's sister's husband'. Lith *sváinis* 'brother-in-law' (particularly 'wife's sister's husband'), Latv *svaînis* 'brother-in-law' (particularly 'wife's brother; wife's sister's husband'). Derivationally related to **suoiniiehₐ-* 'wife's sister' seen in Lith *sváinė* 'sister-in-law' (particularly 'wife's sister; brother's wife'), Latv *svaîne* 'wife's sister', Arm *k'eni* 'wife's sister'. Though **suóiniios* is found only in Baltic, the presence of **suoiniiehₐ-* in Armenian suggests an earlier wider distribution. So too does the existence of OHG *(ge)swiō* (< **suéiōn*) 'brother-in-law' (particularly 'sister's husband'). Morphologically **suoiniio/ehₐ-* might reflect originally an adjectival derivative of **suéiōn*.

For the four people whom the term 'brother-in-law' may be applied, PIE made a clear distinction, having separate terms for each. The best recorded of these was 'husband's brother', **daihₐuḗr*, a term represented in seven stocks. With the exception of Latin, where the word appears to have been borrowed from an alien dialect, the phonological correspondences are regular throughout the distribution and an original PIE term cannot be doubted.

An archaic-looking term for 'wife's brother', **siōuros*, is preserved in Indic and Slavic, and perhaps Armenian, although in that dialect the form reflects 'son-in-law' and may be a borrowing from an otherwise unattested Iranian cognate. The fact that a modern derivative for 'wife's brother's son' survives in Rus *šúrin* 'wife's brother's son' suggests that this was an ancient word and may have been the PIE term despite its limited eastern distribution.

Widely separated Old Norse and Greek words for 'wife's sister's husband', point to an IE term **sueliion*. In Lithuanian a special term *sváinis* exists, derived from the term for wife's sister, *svaínė* (cognate with Arm *k'eni*).

In many stocks 'sister's husband' is not distinguished from 'daughter's husband', **ĝ(e)m(hₓ)ros*, a feature that is typical of many Omaha systems where relatives linked by daughters and sisters receive identical terms.

Finally, Germanic and Indic suggest the existence of a *vṛddhied* or lengthened-grade form, **suēkurós*, derived from 'husband's father'. Despite its archaic appearance, the application of this form to 'wife's brother' is probably a parallel innovation (lengthened-grades are highly productive in both Germanic and Old Indic) from a common IE adjectival meaning 'pertaining to the father-in-law' and this is the meaning attributed to the Old Indic form which occurs very late in Sanskrit literature.

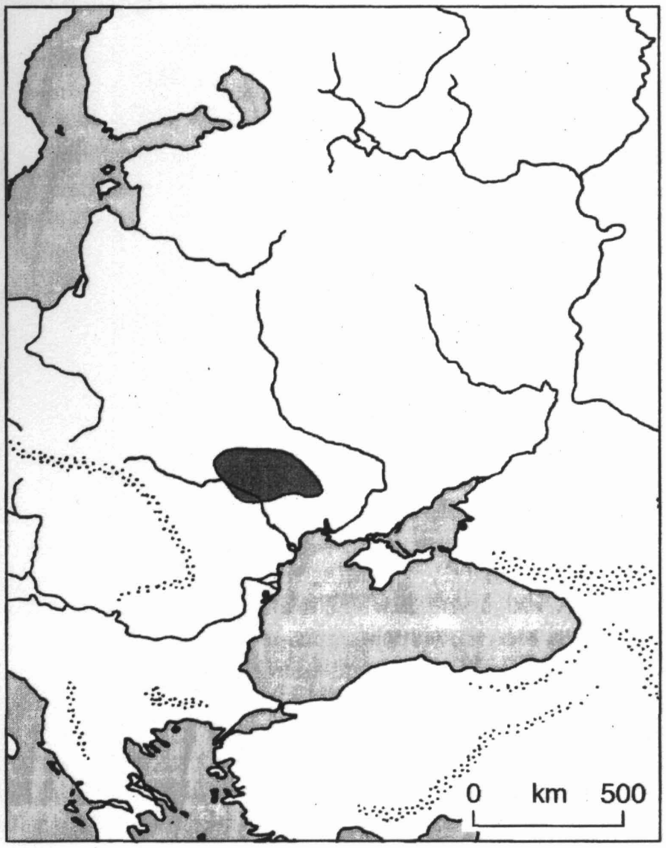
See also KINSHIP; SON-IN-LAW. [M.E.H.]

BROWN

****bher-*** 'brown'. [*IEW* 136 (**bher-*); Wat 7 (**bher-*); GI 190 (**bʰer-*); BK 29 (**burʸ-/*borʸ-*)]. From **bhrūnos* (**bhruhₓnos*?): ON *brúnn* 'brown', OE *brūn* 'brown' (> NE *brown*), OHG *brūn* 'brown', Grk *φρῦνος ~ φρῦνη* 'toad'; other formations include ON *bjǫrn* (< Proto-Gmc **bernu-*) 'bear', OE *bera* (< Proto-Gmc **berō*) 'bear' (> NE *bear*), Lith *bė́ras* 'bay (color of a horse)', Mitanni *papru-* 'brown (of horses)', OInd *babhrú-* 'red-brown'. The root is widespread, though with the exception of the same formation in Germanic and Greek and the word for 'beaver', each stock shows its own morphological innovation(s). Also, its strong and sometimes exclusive association with either the color of animals or the names of animals suggests that is probably not a "primary" color although it did develop into one in Germanic.

?*badios '(yellow) brown'. [*IEW* 92 (**badios*); Wat 4 (**badyo-*)]. OIr *buide* 'yellow', Lat *badius* 'bay, chestnut brown (of a horse)'. The Italo-Celtic evidence is sufficient only to reconstruct this word to the far west of the IE world. Although the word may refer to the color of a horse in Old Irish, it may be much more widely applied and usually is unlike the term in Latin which seems to be primarily restricted to the color of horses.

See also BEAVER; BLACK; COLOR; DARK. [D.Q.A.]



Bug-Dniester a. Distribution of the Bug-Dniester culture.



Bug-Dniester b. Round-based pot; c. Bone fishhook; d. Antler mattock.

BRUSH *see* TREE

BUG-DNIESTER CULTURE

The Bug-Dniester (or Dniester-Bug) culture is an early Neolithic culture of the northwest Black Sea region during the seventh and sixth millennia BC. The culture reveals a transition from a predominantly hunting-gathering-fishing economy to the adoption of domesticated animals (pig, cattle) and ceramics with the retention of a local Mesolithic tool technology. The hunting-gathering component in the economy is clearly local and included the hunting of aurochs, red and roe deer and wild pig with extensive exploitation of fish resources (eel, pike, carp). The presence of a domestic component in the economy has been variously seen as evidence for an intrusion of Balkan farmers into the northwest Black Sea region, the product of acculturation where local Mesolithic populations adopted elements of the agricultural economy from their Balkan neighbors, or a local native development of agriculture (it has been suggested that the cattle and pig were locally domesticated while the presence of wild wheat [*Aegilops cylindrica*] and grinding stones on some very early sites may mark a local transition to or predilection for agriculture long before contacts with Balkan farming communities). These later contacts are believed to be evident in the adoption of domestic wheat (emmer [*Triticum monococcum*], einkorn [*T. dicoccon*], spelt [*T. spelta*]) and barley (*Hordeum vulgare*). Other cultigens or consumable plants include pea (*Pisum sativum*), sloe (*Prunus spinosa*), cherry plum (*Prunus cerasifera*), bullace (*Prunus insititia*), and Cornelian cherry (*Cornus mas*); traces of oats (*Avena*) and possibly millet (*Panicum*) have also been recovered. Architectural remains include semi-subterranean huts in the earlier phases with the development of surface dwellings in the later periods.

While the Bug-Dniester culture does not impinge normally on the identification of any specific IE stock, the nature of its agricultural economy marks a watershed between some of the major theories of IE origins. Proponents of an early Neolithic homeland associated with the spread of agriculture from Anatolia might tend to see the Bug-Dniester culture as the result of agricultural (and IE) expansions from the Balkans toward the steppe and forest steppe of the Pontic-Caspian region. Those supporting a homeland in the Pontic-Caspian itself would see in its evidence for local continuity possible support for the local development of agriculture in that region or, at least, a development independent of a migration of Balkan populations (and their languages). In this way, early agricultural populations to the west of the Bug-Dniester culture would be non-IE and the IE homeland might be situated somewhere to the east of the Bug-Dniester culture.

See also TRB CULTURE; KURGAN TRADITION; TRIPOLYE CULTURE. [J.P.M.]

BUILD

***dem(h$_a$)-** 'build (up)' (pres. ***dém(h$_a$)-e/o-**). [*IEW* 198–199 (**dem-/*dema-*); Wat 11 (**dem(ə)-*); GI 646 (**t'em-*); Buck 9.44; BK 133 (**t'im-/*t'em-*)]. OHG *zeman* 'be fitting', Goth *ga-timan* 'match', Grk *δέμω* 'build', *δέμας* (< **démh̥$_a$s-*) 'body, stature, form', HierLuv *tama-* 'build', Khot *pa-dīm-* 'make' (< Proto-Iranian **pati-damya-*), TochAB *tsäm-* 'increase, grow'. From **dem(h$_a$)-ro-* comes a Germanic group: ON *timbr* 'timber, wood felled for building', OE *timber* 'building; building material; trees, woods' (> NE *timber*), *timbr(i)an* 'build, construct, erect; cut timber', OHG *zimbar* 'material, building', *zimbaren* ~ *zimbarōn* 'build', Goth *timrjan* 'build (up), strengthen; benefit; edify'. Widespread and old in IE. It is perhaps significant for the history of Germanic building techniques that this word has, in its derivative **dem(h$_a$)ro-*, tended to become restricted to 'build in/with wood'. Old and widespread derivatives of the verb, though without the final laryngeal, mean 'house' in many IE stocks. The relationship of this **dem(h$_a$)-* and the apparently similar **démh$_a$-* 'tame' is disputed.

***k^{w}ei-** 'pile up, build'. [*IEW* 637–638 (**k^{u}ei-*); Wat 33 (**k^{w}ei-*); Buck 9.44; BK 320 (**k^w[^{h}]ay-/*k^w[^{h}]əy-*)]. OCS *činŭ* 'order', Grk *ποιέω* (< **k^{w}oi-u̯-ei̯o-*, denominative verb from suffixed *o*-grade of extended form **k^{w}oi-u̯o-*) 'to pile up, make', Av *kay-* 'choose', OInd *cinóti* 'pile up'. Distribution suggests a term primarily of the eastern part of the IE world.

Generally, words for 'build' are found in dialectally restricted roots that reflect different utilization of the various materials available for construction, e.g., OHG *flehtan* 'plait' and OCS *plotŭ* 'fence' from **plek-* 'plait', or Osc *feího-* 'wall' and Grk *τεῖχος* 'wall' from **dheiĝh-* 'to knead, mold' which also gives Lat *fingere* (< **dhinĝh-*) 'to shape' and OE *dīc* 'dike, ditch, embankment' (> NE *dike*). Other terms derive from the concept of 'settle', e.g., Grk *κτίζω* 'build', OInd *kṣi-* 'settle' from **tkei-* 'lie'.

See also TEXTILE. [A.D.V., D.Q.A.]

BURDEN

***h$_1$ónh$_x$es-** 'burden'. [*IEW* 321 (**enos-*); BK 423 (**an-/*ən-*)]. Lat *onus* 'burden', OInd *ána-* 'goods wagon'. The underlying verb is perhaps to be seen in Hit *anniya-* 'do'.

See also CARRY; WAGON. [D.Q.A.]

BURN

***h$_a$eidh-** 'burn; fire'. [*IEW* 11 (**ai-dh*); Wat 1 (**aidh-*); Buck 1.85]. OIr *áed* 'fire', Lat *aedēs* 'temple', OE *ād* 'heat, fire', OHG *eit* 'heat, fire', Lith *iesmė̃* 'firewood', OCzech *niestěje* (< Slav **ěstěja*) 'furnace', Grk *αἴθω* (tr.) 'burn', *αἴθομαι* (intr.) 'burn', *αἶθος* 'fire', Av *aēsma-* 'firewood', OInd *indhé* (< **h$_a$i-n-dh-toi*) 'kindle', *édha-* 'firewood'. Distribution indicates PIE status.

***h$_a$el-** 'burn'. [*IEW* 28 (**al-*); BK 376 (**al-/*əl-*)]. Lat *altar* 'altar', *adoleō* 'burn a sacrifice', Swed *ala* 'blaze, flare up, burn', OInd *alātam* 'firebrand, coal'. Though only sparsely attested, the geographical distribution of those attestations would make PIE status likely.[†]

***h$_2$eh$_x$-** 'burn, be hot' (pres. ***h$_2$éh$_x$or**). [cf. *IEW* 69 (**āt(e)r-*); Wat 4 (**āter-*)]. The underlying verb is preserved as such only in Palaic *hā-* 'be hot'. Derived verbal abstracts are attested in OIr *áith* (< **h$_2$eh$_x$-ti-*) 'kiln', Hit *hās* (acc. *hāssan*) 'soda ash, potash; soap; (pl.) ashes' (< **h$_2$éh$_x$ōs*). Other, more widespread, derivatives are **h$_2$eh$_x$-seh$_a$-* 'hearth' in Lat *āra* 'sacrificial fireplace, fire-altar', Hit *hāssa-* 'fireplace, hearth, fire-altar'; **h$_2$eh$_x$-ter-* 'fire' (< *'burner') in Av *ātar-* 'fire'; and **h$_2$eh$_x$-mer-* '(heat of the) day' in Grk *ἦμαρ* 'day'. An enlarged **h$_2$eh$_x$-s-* is probably to be seen in **h$_2$h̥$_x$s-tér-* 'star' (< *'ember'?). Further extended by an originally present-forming suffix **-dh-* is seen in Lat *ardeō* 'burn' and TochA *āṣtär* 'pure', TochB *astare* 'pure' (< **h$_2$eh$_x$-s-dh-ró-*). The evident antiquity of these derivatives assures the verb's PIE antiquity. The recurring association of this verb with the sacred ('fire-altar', '[sacred] fire', 'pure') is noteworthy. With the loss of all laryngeals in most IE stocks this root came to lack much phonetic body and, presumably as a result, almost everywhere it has been replaced by other words for 'burn'.[†]

***deh$_a$u-** 'kindle, burn, blaze'. [*IEW* 179–180 (**dāu-*); Buck 1.86]. OIr (vn. dat. sg.) *doud* (*DIL dóüd*) (< **doïd* < **dau̯-iō*) 'burning', MWels *deifyaw* (< **dau̯-*) 'burn, singe', *cynneu* (< **kom + dau̯-iō*) 'kindle', Grk *δαίω* (< **deh$_2$u-i̯ō* or **dh$_2$u̯-*) 'kindle, burn', OInd *dunóti* 'kindles, burns', TochA *twās-* 'kindle, ignite, light', TochB *tu-* ~ *twās-* 'kindle, ignite, light'. PIE status certain.

***dheg^{w}h-** 'burn'. [*IEW* 240–241 (**dheg^{u}h-*); Wat 13 (**dheg^{w}h-*); GI 725 (**d^{h}eg^{h}o-*); Buck 1.85; BK 142 (**d^{y}ak^w[^{h}]-/*d^{y}ək^w[^{h}]-*)]. OIr *daig* (< **degi-*) 'flame', MWels *goδeith* (< **-deith* < **-dheg^{w}h-teh$_a$-*) 'blaze', perhaps *de* 'burning', Lat *foveō* (< **dhog^{w}heie/o-*) 'heat, cherish', *febris* 'fever', Lith *degù* 'burn', OCS *žegǫ* (where *ž* < *g* for *d*) 'burn', Alb *djeg* 'burn', Grk *τέφρᾱ* 'ash', Av *dažaiti* 'burns', OInd *dáhati* 'burns', TochAB *tsäk-* 'burn'. Good distribution indicates PIE status. Goth *dags* 'day' has also been placed here but this has been challenged since the derivatives from **dheg^{w}h-* have the meaning 'summer' (e.g., OPrus *dagis*, OInd *ni-dāghá-*) and not 'day'. As it stands beside *fidur-dōgs*, it may point to **dhh̥$_x$gh-*, **dhoh$_x$gh-* respectively; **dhh̥$_x$gh-* may be found in TochAB *tsäk-* 'light, give light'.

***h$_1$eus-** 'burn, singe'. [*IEW* 347–348 (**eus-*); Wat 18 (**eus-*); GI 725 (**eus-*); Buck 1.85]. Lat *ūrō* 'burn', ON *ysja* 'fire', *usli* 'glowing ashes', OE *ysle* (< **h$_1$us-*) 'glowing ashes', Alb *ethe* (< **h$_1$eus-dh-ii̯eh$_a$-*) 'fever', *yll* (< **h$_1$usli-?*) 'star', Grk *εὕω* 'singe', OInd *óṣati* 'burns, singes'. PIE status assured.

***ĝu̯elh$_x$-** 'burn, glow; charcoal'. [*IEW* 399 (**g(e)u-lo-*); Wat 20 (**g(e)u-lo-*); Buck 1.82]. OIr *gúal* (< **ge/oul-*) 'charcoal', ON *kol* 'charcoal', OE *col* 'glowing piece of wood', OHG *kol* (< **kula-*), *kolo* (< **kulōn*) 'charcoal', Lith *žvìlti* 'gleam', Latv *zvilnêt* 'flame, glow', OInd *jválati* 'burns', *jvālá-* 'flame; coal'. Very doubtful is Arm *krak* (< **guro-?*) 'fire, glowing coals'; the Celtic form is cognate only if it has a secondary full-grade

based on the zero-grade *ĝul(h_x)-. Nevertheless, even with cognates in the northwest and Indic, the distribution is fair and indicates considerable antiquity.

su̯el- 'burn'. [*IEW* 1045 (*su̯el-); Wat 68 (*swel-)]. OE *swelan* 'burn', OHG *swilizōn* 'burn', Lith *svilù* 'singe', Latv *sveļu* 'singe'. Grk *εἵλη, ἕλη, ἕλā* 'heat of the sun' is unclear as is *ἀλέα* (< *su̯lh_x-?) 'warmth, heat'. The supposed connection with *sh_au̯el- 'sun' is semantically attractive only for Greek and still does not explain *ειλ-* nor *ελ-* nor *αλ-* (*sh_au̯el- > *ἀϝελ-). Moreover, *su̯el- is a root, whereas *seh$_a$u-(e)l- 'sun' is a derived noun. Although sometimes compared here, OInd *svárati* 'lights, shines' probably does not exist. The root is solidly attested only as a "northwesternism".

su̯elp- 'burn, smoulder'. [*IEW* 1046 (*su̯elplo-s)]. Lat *sulp(h)ur* 'sulfur', OE *swefl* 'sulfur', OHG *swebal* 'sulfur', Goth *swibls* 'sulfur' (Latin and Germanic < *su̯élpl̥ [gen. *sulplós] 'that which burns' with different kinds of dissimilation of the *l...l̥), TochAB *sälp-* 'be set alight, blaze up; burn'. An enlargement of the previous word.†

u̯er- 'burn'. [*IEW* 1166 (*u̯er-); Wat 77 (*wer-); cf. GI 725; BK 491 (*wur-/*wor-)]. ON *varmr* 'warm', OE *wearm* 'warm' (> NE *warm*), OHG *warm* 'warm', Goth *warmjan* 'to warm', Lith *vérdu* 'boil', Latv *vȩr̃du* 'boil', OCS *variti* 'boil, cook', Hit *ur-āni* (< by dissimilation *urāri) 'burns', *warant-* 'burnt', TochA *wrātk-* 'cook'. Alb *vorbë* 'cooking pot' is doubtful while Arm *vaṙem* 'burn' is probably an Iranian loan. The Germanic forms have also been derived from *g^{w}her-. Even excluding doubtful items, there is still some claim to IE antiquity.

?*ker- ~ *kerh_x- 'burn, roast'. [*IEW* 571–572 (*ker(ə)-); Wat 30 (*ker-); BK 207 (*ʧ[^{h}]ar-/*ʧ[^{h}]ər-)]. ON *hyrr* (< *kurja < *kr̥-i̯o-) 'fire', OE *hierstan* 'roast', OHG *hersten* 'roast', *herd* (< *herþ-) 'hearth', Goth *haúri* (< *kr̥-i̯o-) 'coal'. Although cited elsewhere, the following cognates do not belong here: Lith *kuriù* 'heat, build', OCS *kuriti* 'smoke', Rus *čéren* 'hearth', OInd *kūḍayati* 'burns'. Doubtful also are Lat *carbō* 'charcoal', Arm *xar(š)em* 'roast, boil', *xorovel* 'roast, boil'. Thus the root is found with certainty only in Germanic.

?*keh$_a$u- 'burn'. [*IEW* 595 (*k̑ēu-); Buck 1.85]. Grk *καίω* '(< *keh$_a$u-i̯ō) 'burn', *καῦμα* 'burning heat (of the sun)', TochA *koṃ* 'sun', TochB *kauṃ* 'sun' (< *keh$_a$u-ni- 'burning heat [of the sun]'). Uncertain is Lith *kūlė́ti* (< *kuh$_a$-l- with metathesis of *kh$_a$u-?) 'get (a) burning (feeling)', *kū́lės* (with regular metonymy) 'rust, blight' (= 'burning of plants'). If the Tocharian words go with the Greek, then there is some claim to PIE antiquity for this root.

?*h$_3$ep- 'roast'. Grk *ὀπτός* 'roasted, baked', Hit *happin(a)-* 'open flame'. The connection between these words is a mere possibility; the Hittite word is not cognate with Grk *ἕψω* 'cook', Arm *ep'em* 'cook'. Dubious antiquity.

?*preus- 'burn'. [*IEW* 846 (*preus-); Wat 53 (*preus-)]. Lat *prūna* (< *prusnā) 'glowing coals', Alb *prush* 'glowing', OInd *ploṣati* 'burns'. The evidence is not very reliable as the Old Indic form is late and has a *l*.

The large number of words for 'burn' is not surprising as it concerns a very essential process. Probably the words had different meanings, but these are hard to establish now. The following more specific meanings may be tentatively suggested: *h$_a$eidh- 'the steady process of burning'; *h$_1$eus- 'singe, burn something'; *ĝu̯elh_x- 'glow'; *h$_3$ep- 'roast'; *su̯el- 'smoulder'; *u̯er- 'to (make) warm (by fire)?', and *h$_2$eh$_x$- 'burn (to offer or purify?)'.

See also Ash[2]; Charcoal; Cook; Day; Dry; Fire; Hearth; Heat; Hunger; Pure; Star. [R.S.P.B., D.Q.A.†]

BURY *see* DEATH BELIEFS

BUTTERFLY

pelpel- 'butterfly'. [*IEW* 801 (*pel-)]. Lat *pāpiliō* 'butterfly', ON *fífrildi* 'butterfly', OE *fīfalde* 'butterfly', OHG *fīfaltra* 'butterfly', Lith *peteliškė* 'butterfly'. These words seem related in some fashion, and attest a word of the IE northwest, but the exact pre-form is not reconstructible. An expressive word subject to various kinds of phonological deformation.

See also Insects. [D.Q.A.]

BUTTOCKS

h$_1$órs(o)- 'rear-end'. [*IEW* 340 (*ers-); Wat 46 (*ors-); GI 717 (*ors-)]. Lat *dorsum* (if < *d-h$_1$orso-, whether with a prefix *d- or by misdivision in phrases such as *tod h$_1$orsom 'this back') 'back, ridge', ON *ars* 'arse', OE *ears* 'arse' (> NE *arse/ass*), OHG *ars* 'rump', Grk *ὄρρος* 'rump', Arm *oṙ* 'rump', Hit *ārra- ~ ārri- ~ arru-* 'rump'. Cf. also OIr *err* 'back of chariot'. Though sparingly attested, we have here the PIE word for 'rump, buttocks'.

n(o)h$_x$t- '± rear-end'. [*IEW* 770 (*nōt-); Wat 45 (*nōt-)]. Lat *natis* 'buttocks (of humans)', Grk *νῶτον* 'back'; possibly related in some fashion is Goth *nōta* 'stern (of a ship)' with *-t-* rather than the expected *-þ- (crossed with *nati* 'net'?). Though its archaic morphology argues a great age, its geographical distribution suggests that it was probably a regionalism in late IE.

bulis '± rump'. [*IEW* 99 (*b(e)u-); Wat 5 (*beu-)]. Lith *bulìs* 'rump', Grk (Hesychius) *βυλλά* 'stuffed', OInd *buli-* 'vulva; anus'. Confined to the center and east of the IE world.

ĝhn̥ghéno/eh$_a$- '± buttock'. [*IEW* 438 (*ĝhengh-); Wat 22 (*ghengh-)]. Grk *κοχώνη* (< *kakhṓnē*) 'crotch', OInd *jaghána-* 'hind end, buttock, pudenda'. Related to OInd *jáṅghā* 'shin' and further to Goth *gaggan* 'go'. The Greek and Old Indic formations do not quite match, so they may be independent creations. If they do reflect a common source, we have at best a late dialectal term in IE.

See also Anus; Haunch. [D.Q.A.]

BUY *see* EXCHANGE

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CABBAGE *see* VEGETABLES

CALL

Shout

***gal-** 'call out, speak'. [*IEW* 350 (**gal-*); Wat 18 (**gal-*); Buck 19.13, 18.41]. Probably OIr *gall* 'swan', Wels *galw* 'call', Lat *gallus* 'cock', ON *kall* 'shout', *kalla* 'to shout' (borrowed > NE *call*), OE *ceallian* 'call', OHG *kallōn* 'speak loudly' (Gmc < **galsó-*), Lith *gal̃sas* 'echo', OCS *glasŭ* 'voice' (and reduplicated *glagoliti* 'speak'), Rus *gólos* 'voice', Oss *γalas* 'sound'. With Iranian, sufficiently widespread that its IE status is assured.

***ĝar-** 'shout, call'. [*IEW* 352 (**ĝă̄r-*); Wat 18 (**gar-*); Buck 18.13, 18.14]. OIr *do-gair* 'call', *gāir* (noun) 'shout', *gairm* (noun) 'shout', Wels *garm* 'shout, cry', *gawr* 'shouting', Lat *garriō* 'chatter, prattle', ON *kǫr* 'sickbed', OE *cearu* 'care, sorrow, mourning' (> NE *care*), *cearian* 'mourn' (> NE *to care*), *cearm* 'noise', OHG *chara* 'mourning', *charōn* 'mourn', Goth *kara* 'care', *karōn* 'be concerned', Grk *γῆρυς* 'voice, call', (Hesychius) *γαρριάω* 'rail at', Arm *cicar̄n* 'swallow [bird]', *cicar̄nuk* 'nightingale', Oss *zarun* 'sing', *zar* 'song'. Widespread and old in IE.

***neu-** '± cry out'. [*IEW* 767 (**neu-*); Wat 44 (**neu-*); Buck 18.43; BK 571 (**naw-/*nəw-*)]. OIr *nūall* 'cry, noise', Lat *nūntius* 'message; messenger', Latv *nauju* 'cry', NPers *navīdan* 'cry', OInd *návate* 'shouts, cries', TochAB *nu-* 'roar'. Sufficiently widespread to be assured of PIE antiquity.

***ghel-** 'cry out, sing (particularly of birds)'. [*IEW* 428 (**ghel-*); Wat 21 (**ghel-*)]. ON *gjalla* 'resound', *gœla* 'comfort, soothe', *gala* 'sing', *gola* 'howl', OE *giellan* 'yell, cry out' (> NE *yell*), *galan* 'sing' (cf. *nihte-gale* 'nightingale'), OHG *gellan* 'resound loudly', *galan* 'sing', (cf. *nahti-gala* 'nightingale'), Goth *gōljan* 'greet', Rus *galitĭsja* 'mock', *na-gálitĭ* 'cry, sing', Grk *χελῑδών* 'swallow', *κίχλη* 'thrush'. At least a word of the west and center of the IE world.

***(s)u̯eh$_a$gh-** '± cry out; resound'. [*IEW* 1110 (**u̯ăgh- ~ *suăgh-*); GI 106; BK 481 (**wa-/*wə-*)]. ON *sœgr* 'noise', *svagla* 'splash', OE *swōgan ~ swēgan* 'to sound' (> NE *sough*), Goth *ga-swōgjan* 'sigh', Lith *sugti* 'howl', Lith *svagėti* 'sound', *suókti* (the final *-k-* comes by crossing this word with *kaũkti* 'howl') 'sing', Latv *svadzēt* 'rattle, clang', *sūdzêt* 'mourn', Grk *ἠχή* 'noise', *ἠχέω* 'to sound, ring', *ἠχώ* 'echo', *ἰαχέω ~ ἰάχω* (< **u̯i-u̯h$_a$gh-*) 'cry, shout; resound, ring'. Cf. Lat *vāgiō* 'cry, squall (of babies), scream' as if from PIE **u̯eh$_a$g-*. At least a word of the west and center of the IE world.

***(s)trep-** '± cry out, dispute'. [*IEW* 1037 (**(s)trep- ~ *(s)treb-*); Wat 67 (**strep-*)]. Lat *strepō* 'cry loudly, make noise', ON *þrefa* 'dispute, wrangle', OE *þrafian* 'restrain, reprove; urge, demand', *þrœft* 'dissension'. MIr *trena* (pl.) [*DIL trīan*] 'celebration, festival, rites, funeral games' has been placed here as if from **trepno-* but is more likely to derive from the ordinal 'third' (*trīan*), i.e., a third part or triple celebration. A western dialectal term in late IE.

***u̯eh$_a$b-** 'cry, scream'. [*IEW* 1109 (**u̯āb-*); Wat 73 (**wāb-*); Buck 18.13; BK 481 (**wa-/*wə-*)]. ON *œpa* 'shout', OE *wēpan* 'weep' (> NE *weep*), OHG *wuoffen ~ wuofan* 'bewail', Goth *wōpjan* 'cry out, call loudly', Lith *võbyti* 'summon at court', Latv *vābīt* 'entice, summon to judgment', OCS *vabljǫ* 'cry'. At least a northwestern term in late IE.

Invite

***ĝheu(h$_x$)-** 'call to, invite, invoke'. [*IEW* 413 (**ĝhau-*); Wat 23 (**gheu(ə)-*); Buck 18.41]. Without the final laryngeal of the root we have OIr *guth* 'voice', and the Germanic word for 'god' (e.g., ON *goð ~ guð*, OE *god* [> NE *god*], OHG *got*, as *'± that which is invoked'). From a present **ĝhéuh$_x$e/o-*: OCS *zovǫ* 'call', Rus *zavŭ* 'call', Av *zavaiti* 'calls', OInd *hávate* 'calls, invokes'; from a present **ĝhuh$_x$eh$_a$-*: OCS *zŭvati* 'call', Av *zbātar-* 'one who invokes', OInd *hvā-* 'call, invoke', TochB *kuwā-* 'call, invite'. Cf. the related noun in Slov *zòv* 'call', Av

zava- 'call', OInd *háva-* 'call'. With intensive reduplication and with expressive **-a-*: Grk *καυχάομαι* 'speak loudly, boast', Av *zaozao-* 'call after', (perhaps then with dissimilation [**ĝhau-*ĝhau(h_x)- > *k̂hau-ĝh-*] Arm *xawsim* 'speak'). Other present formations are seen in Lith *žavěti* 'conjure', Latv *zavêt* 'conjure', Arm *jawnem* 'consecrate, bless'. Widespread and old in IE.

***kelh$_1$-** 'call out to'. [*IEW* 548–549 (**kel-*); Wat 28–29 (**kelə-*); GI 174 (**kʰ-l̥l-e(s)-*); Buck 18.13, 18.14; BK 244 (**k[ʰ]al-/*k[ʰ]əl-*)]. OIr *cailech* 'cock', Wels *ceiliog* 'cock', Lat *calō* 'call together, summon, convoke', *calendae* 'first days of the month when it was publicly announced on which days the nones and ides would fall', ON *hjala* 'chatter, talk', Latv *kaļuôt* 'chatter', Grk *καλέω* 'call', *καλήτωρ* 'herald', *κλῃδήν* 'by name', Hit *kalless-* 'call', OInd *uṣā-kala-* 'cock' (if < *'dawn-caller'). Widespread and old in IE. Enlargements of this verb include: OE *hlōwan* 'roar, low' (> NE *low*), OHG *(h)lōjan* 'roar', OPrus *kaltzā* 'ring', *kelsāi* 'read, sound out', Lith *kalbà* 'speech'.

***k̂euk-** 'cry out (to)'. [*IEW* 535–536 (**kău-*)]. Lith *šaukiù* 'call, cry, shout; summon', Latv *saukt* 'call; summon; proclaim (in church); elect', TochB *kuk-* 'call out to'. A Baltic-Tocharian correspondence which must be at least of late IE date.

Cry Out

***kreuk̂-** 'cry out, raise the hue and cry'. [*IEW* 571 (**(s)k(o)reu-*)]. OE *hrēam* '(juridical) outcry', Av *xraos-* 'call', OInd *(ánu) krósati* 'cries out, raises the hue and cry'. Here we have preserved, at the far western and eastern fringes of the IE world, a word with particular legal associations, namely the raising of the hue and cry for a thief or other malefactor.

See also ANIMAL CRY; BIRD CRY; STEAL. [D.Q.A.]

Further Reading

Watkins, C. (1970) Studies in Indo-European legal language, institutions, and mythology, in *Indo-European and Indo-Europeans*, eds. G. Cardona, H. Hoenigswald, A. Senn, Philadelphia, University of Pennsylvania Press, 321-344.

CAPTIVE

***kaptos** 'captive'. [*IEW* 527 (**kap-to-s*); GI 125 (**kʰapʰ-*); Buck 20.47; BK 242 (**k[ʰ]ap[ʰ]-/*k[ʰ]əp[ʰ]-*)]. OIr *cacht* 'captive, female slave', Wels *caeth* 'slave', Lat *captus* 'captive', ON *haptr* 'prisoner', OE *hæft* 'captive, slave; bond, fetter' (> NE *haft*), OHG *haft* 'bound; device for retaining, fetters', Goth (dat.) *-hafts* 'laden with, subject to', *qiþu-haftō* 'pregnant'. A participial formation from the verbal stem **kap-* 'take, seize' (cf. Lat *capiō* 'I seize, take hold of, take'). Clearly a west IE word whose development lies in the taking of prisoners of war and their subsequent disposal as slaves.

See also BOOTY; WARRIORS. [E.C.P.]

CARP

***k̂óph$_2$elos** 'carp (*Cyprinus* spp.)'. [*IEW* 614 (**k̂op(h)elo-s*); GI 28 (**Kopʰelo-*)]. Lith *šāpalas* 'chub (*Cyprinus* [or *Leuciscus*] *dobula*)'. Latv *sapal(i)s* 'Dvina-carp, chub (*Leuciscus idus, L. grislagine*)', OInd *śaphara-* '*Cyprinus sophore*; carp (in general)'. Though attested only late in Old Indic the exact semantic and phonological equation with the Baltic words need not be doubted. It would be nice to add Khot *kava-* 'fish', Oss *kæf* 'fish' here as **koph$_2$os* but the difference in initial consonants is difficult. Similar phonetically, but unrelated (to this word or to each other), are OHG *karp(f)o* 'carp' (whence medieval Lat *carpa* 'carp' and Rus *kórop* 'carp') and Grk *κυπρῖνος* 'carp'. At least a word of the center and east of the IE world.

***ghérsos** 'asp' or 'pikeperch'? Norw *gjørs* 'pikeperch (*Stizostedion lucioperca*)', Swed *gärs* 'ruff (*Gymnocephalus cernua* aka *Acerina cernua*)', Rus *žérekh* (< **ghērso-*) 'asp (*Aspius aspius*)'. Probably to be connected here, though the connection is not without phonological difficulties, is OInd *jhaṣá-* 'a kind of large fish, Pisces (the zodiacal sign), fish'. Also possibly cognate is Lat *gerrēs* '± *Maena vulgaris*' if it is a borrowing from some other IE group (if it were directly inherited we would expect **ferrēs*). Clearly the Germanic and Slavic words belong together but even with only three attestations deciding the original meaning is very difficult. Both the pikeperch and the ruff are members of the *percidae*, though the pikeperch is about three times as large as the ruff. The asp, however, is a member of the *cyprinidae* and intermediate in size between the pikeperch and the ruff. The Old Indic cognate, if it is that, would argue for a relatively large fish as opposed to a smaller one. At least a word of the west and center in IE; if the Old Indic is cognate then we have good evidence for pan-IE status.

The distribution of the common carp extends across Europe (it has been identified on Swiss Neolithic sites) and into Central Asia and it is extremely well represented on sites north of the Black Sea from the Mesolithic period onwards. It was not only exploited as a source of food but necklaces and other ornaments fashioned from the teeth of the carp are a frequent artifact in the middle Dnieper region. Cyprinids are also known from the Indus river system and were exploited in the Harappan culture. The asp and pikeperch are known from central and northern Europe and across eastern Europe to Central Asia.

See also FISH; PERCH. [D.Q.A., J.P.M.]

CARROT *see* VEGETABLES

CARRY

***bher-** 'carry' (pres. ***bhére/o-**). [*IEW* 128–132 (**bher-*); Wat 7 (**bher-*); GI 16 (**bʰer-*); Buck 10.61; BK 6 (**bar-/*bər-*)]. OIr *beirid* 'carries', Wels *cymeraf* 'take', Lat *ferō* 'carry', ON *bera* 'carry, bear', OE *beran* 'carry, bear' (> NE *bear*), OHG *beran* 'carry, bear', Goth *baíran* 'carry, bear', perhaps Lith *beriù* 'strew' and Latv *beŗu* 'strew' though the semantic divergence is great, OCS *berǫ* 'take', Rus *berú* 'take', Alb *bie* (< **bherie/o-*) 'carry, bring', Grk *φέρω* 'carry', Arm *berem* 'carry', Av *baraiti* 'carries', OInd *bhárati* 'carries', TochAB *pär-* 'carry'. Cf. the widespread derivatives (1) **bhérmn̥-* 'load':

OCS *brěmę* 'load', Grk *φέρμα* 'fruit', OInd *bhárman-* 'load'; (2) **bhṛtís* 'carrying': Lat *fors* 'luck', ON *burðr* 'birth', OE *gebyrd* 'birth, fate', OHG *giburt* 'birth, fate', Goth *gabaúrþs* 'birth', Arm *bard* 'pile', Av *bərəti-* 'carrying', OInd *bhṛtí-* 'carrying'; (3) **bhóros* 'what is borne': OCS *sŭ-borŭ* 'collection', Grk *φόρος* 'produce; tax', NPers *bar* 'fruit', OInd *bhára-* 'acquisition, booty, burden', perhaps TochA *pare* 'debt' and TochB *peri* 'debt'; (4) *-*bhorós* 'bearing': Grk *-φορος* 'bearing', Arm *-vor* 'bearing', Av *-bara-* 'bearing', OInd *-bhará-* 'bearing'; (5) **bhṓr* 'one who bears (away)': Lat *fūr* 'thief', Grk *φώρ* 'thief'. Absent in Hittite, but otherwise practically universal and certainly old in IE.

u̯eĝh- 'bear, carry' also 'ride'? (pres. ***u̯éĝhe/o-***). [*IEW* 1118–1120 (**u̯eĝh-*); Wat 74 (**wegh-*); GI 627 (**weĝʰ-*); Buck 10.66; BK 301 (**wagʸ-/*wəgʸ-*)]. Wels *amwain* 'drive about', Lat *vehō* 'bear, carry, convey; draw', ON *vega* 'move, bring', OE *wegan* 'bring, be in motion' (> NE *weigh*), OHG *wegan* 'move, weigh', Goth *gawigan* 'move, shake', Lith *vežù* 'drive', OCS *vezǫ* 'drive', Alb *vjedh* 'steal', Grk *(ϝ)εχέτω* 'he should bring', Av *vazaiti* 'transports; leads', OInd *váhati* 'carries, transports, conveys; leads'. Cf. the derivative **u̯eĝhtis* in Lat *vectis* 'bar, pole, lever', ON *vētt* 'weight', OE *wiht* 'weight' (> NE *weight*); **u̯eĝhitlom* in Lat *vehiculum* 'vehicle', OInd *vahítram* 'vehicle, ship'; **u̯eĝhi̯o-* in OE *wicg* 'horse', Av *vazyam* 'load'; **u̯oĝhos* in OCS *vozŭ* 'wagon', Grk *ὄχος* 'wagon'; **u̯eĝhnos* in OIr *fēn* 'wagon', Wels *gwain* 'wagon', TochA *wkäṃ* 'way, manner', TochB *yakne* 'way, manner' (and similarly **u̯oĝhno-* in NE *wagon*). Widespread and old in IE. In many stocks it means 'ride (in a wagon or on a horse)' but it is not certain that this meaning can be reconstructed for PIE itself. Perhaps the best evidence that it could mean 'ride in a wagon' in PIE is the apparent agreement of Lat *vehiculum* and OInd *vahítra-*. However, it cannot be absolutely excluded that these are independent creations in their respective stocks.

See also BEAR²; BURDEN; DRIVE; LITTER; RIDE; WAGON. [D.Q.A.]

CASE

?*u̯elutrom 'case'. [*IEW* 1141 (**u̯elu-tro-m*); Wat 75–76 (**welu-tro-*); BK 486 (**walʸ-/*wəlʸ-*)]. Lat *involūcrum* 'covering case', Grk *ἔλυτρον* 'case', OInd *varū́tra-* 'cloak'. From **u̯el-* 'wind, turn'. Possibly a PIE word but also possibly independent developments in the three stocks that show it.

See also BAG. [D.Q.A.]

CASTRATE

u̯édhris 'castrated'. [*IEW* 1115 (**u̯edh-ri-s*); Buck 3.14; BK 478 (**wad-/*wəd-*)]. Grk *ἐθρίς* 'eunuch', Luv *wida(i)-* 'strike', OInd *vádhri-* 'castrated'. The agreement of Greek and Old Indic in this instance suggests at least a late dialectal word in IE. Derived from the root **u̯edh-* 'strike'.

Castration, the surgical removal of the testes of the male, was employed in stockbreeding regimes in order to induce both physical changes, e.g., speed growth and the accumulation of fat, and behavioral, e.g., reduce aggression in bulls in order to render them more useful as traction animals. Evidence for prehistoric castration is limited to metrical analysis of the bones of males where castrates will be expected to have a greater length to width ratio than unaltered males. Given natural variations in populations, such a technique results in frequent controversy over whether one can actually discern the presence of castrates although some have presumed that the mere presence of paired bovine draught, seen in central and eastern Europe from the fourth millennium BC onwards, itself should suggest the existence of oxen (castrated males). Nevertheless, even bulls, if their diet is reduced to inhibit aggression, may be yoked to pull carts.

See also BARREN; SEXUAL ORGANS AND ACTIVITIES; STRIKE. [D.Q.A., J.P.M.]

CAT

?*bhel- 'wildcat; any small carnivore'. Wels *bele* (< **bhelego-*) 'marten', Lat *fēlēs* '(wild) cat; any small carnivore', OInd *bharuja-* 'jackal' (only lexically attested), Maldivian *balu* 'dog'. This word seems the most likely candidate for the PIE designation of the wildcat (*Felis silvestris*) which, whatever homeland model one adopts, must have been part of the faunal environment of the PIE speakers as it is found from Ireland into Asia while in Central Asia we have the Pallas' cat or the manul (*Felis manul*) and in India the yellow cat (*Felis libyca*) and the jungle cat (*Felis chaus*). However, the original meaning of the reconstructed word, if indeed it can be ascribed PIE antiquity, is doubtful. Another possibility is that the Welsh and Latin words alone belong together with a meaning of 'marten'.

??*kat- 'cat'. [*IEW* 534 (**kat-*); GI 513 (**kʰatʰ-*); Buck 3.62]. OIr *catt* 'cat' (if not from Latin), VulgLat *cattus* ~ *gattus* 'wild cat'. From Latin are derived both the Baltic (OPrus *catto* 'cat', Lith *katė̃* 'cat', Latv *kaķe* 'cat') and Slavic (Rus *kot* 'cat') names of the 'cat'. Cf. also Arm *katu* 'cat' and Oss *gædy* 'cat'. The appearance of the word *cattus* is relatively late in Latin, as was the introduction (from Egypt?) of the domestic cat which is its typical referent (though it may refer like the older *fēlēs* to the wildcat as well). The word *cattus* is presumably borrowed from some non-Latin source as is, in turn, the source of many of the other European words for 'cat'. In Latin itself there was a secondary association with *catulus* 'young animal, whelp' that is of IE provenance, cf. ON *haðna* 'young goat, kid', MHG *hatele* 'goat', Rus *kotítʹsja* 'bear young'.

Distinctions between the wild and early domestic cats on the basis of skeletal remains are difficult although domestic cats will tend to be slightly smaller with respect both to stature and dentition. In general, the domestication of the cat is widely presumed to have occurred in North Africa and possibly not until just before the New Kingdom in Egypt, i.e., the sixteenth century BC, although some would claim that it may have been domesticated as early as the Old Kingdom in the third millennium BC. Whatever the precise date of its domestication, it is to Egypt and such lexical forms as Nubian *kadīs* 'cat' that the chain of borrowings of both the animal

and the word is initiated. Domestic cats are said to have spread into the Aegean world before the twelfth century BC and the cat was present in Italy by the first centuries BC from whence it spread throughout the Roman Empire and beyond. Its arrival in India may be set to the third millennium BC. The domestic cat can interbreed with the wildcat.

See also MARTEN. [D.Q.A., J.P.M.]

CATACOMB CULTURE

Early Bronze Age culture(s) north of the Black Sea and Caucasus dating *c* 3000–2200 BC. The Catacomb culture was closely related to the somewhat earlier (Pontic) Yamna culture and occupies much of the same region while the successor to the Yamna culture in the east (Volga region) was the Poltavka culture. As the Catacomb culture occupies such a large area and can be divided into regional variants (on the basis of ceramic styles and to some extent burial practice), it is also termed the "Catacomb cultural-historical area" and the regional variants may themselves be designated as cultures.

Evidence for settlements is quite sparse and the overwhelming majority are regarded as short-term seasonal camp-sites situated near sources of water. Several more substantial settlements are known such as Matveyevka on the Southern Bug which had three large structures with stone foundations. On the small island of Bayda on the Dnieper river was discovered a late Catacomb stone-built fortress with a surrounding ditch. The economy is believed to have relied considerably on stockbreeding; remains of cattle, sheep/goat and horse have all been recovered with minimal remains of pig. Plant remains are very rare but traces of wheat, both einkorn (*Triticum monococcum*) and emmer (*T. dicoccon*), have been found, and remains of wooden plows have been recovered from Catacomb burials.

The Catacomb culture derives its name from its burial rite which augmented the shaft grave of the Yamna culture with a burial niche at its base, the so-called catacomb. Individuals were normally placed in the flexed position on their right side and might be accompanied with weapons—axes (both stone and metal), maces, arrows, daggers—and ornaments, including silver rings. Animal sacrifices, including the head and hooves of cattle, sheep and goat, accompanied burials (animal remains occur in about 16% of the graves). Ceramics were more elaborate than those of the Yamna culture and included, especially in female burials, low footed vessels interpreted as "censers", presumed to be used in rituals involving some narcotic substance such as hemp. Wheeled vehicles are also found in burials and some have suggested that they include among their number some of the earliest chariots. In some regions of the Catacomb culture, particularly those centering on the Seversky Donets, there is considerable evidence for artificial skull deformation, possibly as both an aesthetic device and ethnic marker.

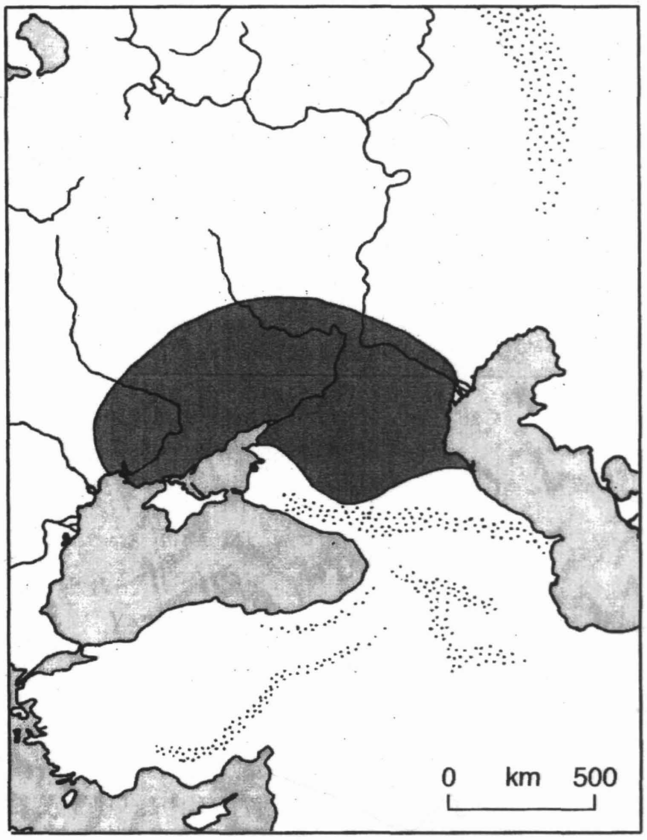
Another Catacomb cultural practice of considerable interest concerns skulls where the face of the deceased has been modelled in clay. This involved the infilling of eye sockets, ears, nasal cavity and mouth with clay and, in various degrees, modelling the surface features of the face. There are about a hundred examples known from the Dniester east to the Donbas which would constitute some 3% of all excavated Catacomb burials. In some instances modelled faces are clearly associated with status burials accompanied by wheeled vehicles, axes, scepters, and other prestige items. Although males are more likely to have this treatment, women and children are also found with modelled faces. It has been suggested that the Catacomb clay masks may have been a distant prototype for the later gold masks that were found accompanying the shaft-grave burials of the Mycenaeans. Another marked occurrence (9% of burials examined) involving the skull was the artificial widening of the occipital or trepannation (i.e., drilling holes in the skull), presumably associated with some (ritual-)medical practice.

Sets of tools from Catacomb burials have suggested the existence of craft specialists such as bronze workers while evidence of other crafts, e.g., weapon manufacture, weaving, have been found. Weapons occur in about 10% of all burials. From palaeodemographic studies of the burials (1200 have been studied) and assessment of the steppe resources, a population of some 50,000–60,000 has been estimated for the Catcomb culture in the north Pontic.

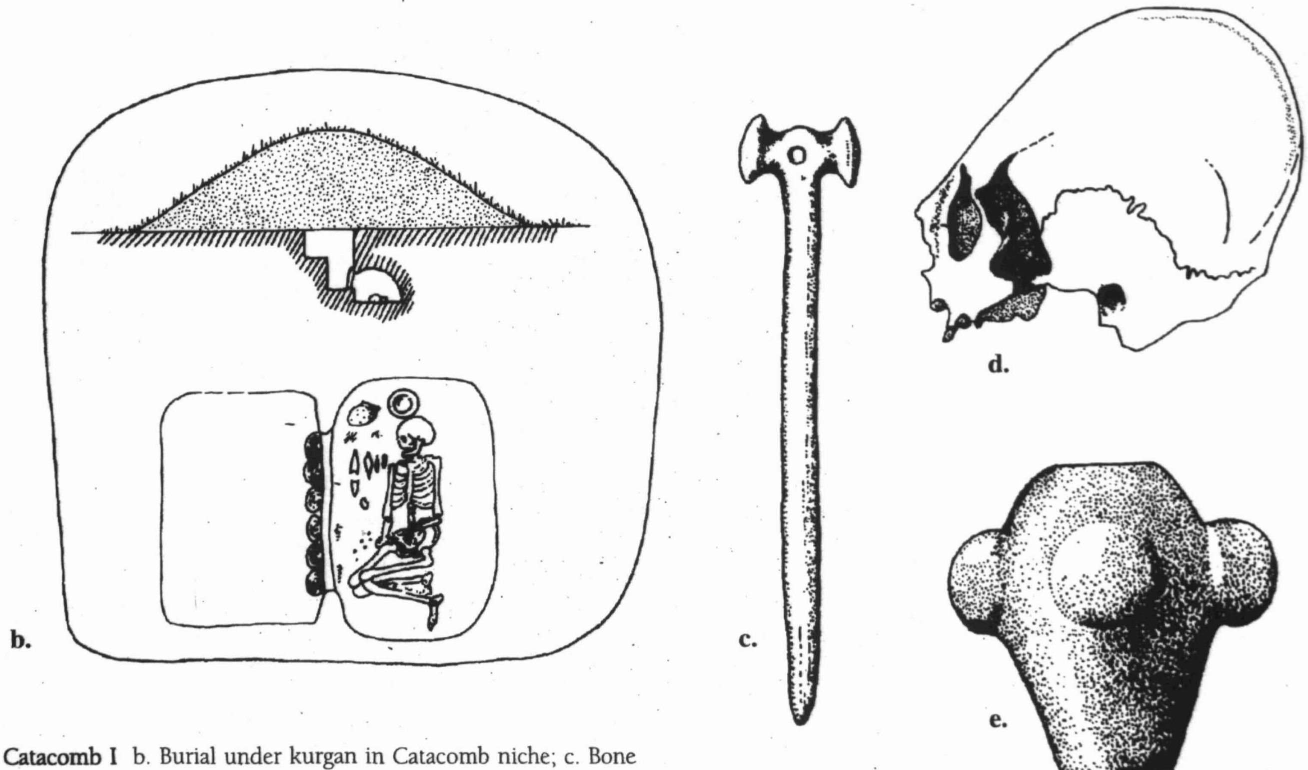
The presence of the catacomb niche in burials has been regarded by a number of archaeologists as a diagnostic cultural marker which permits one to trace either movements from the steppe or to the steppe, depending on one's preference. Thus, the existence of niche-like chambers in burials from Italy across the eastern Mediterranean has been suggested as evidence for the spread of Catacomb people through these regions and other parallels in metal and figurine types have been proposed to support a movement of steppe populations through Syria into Palestine *c* 3000–2500 BC. As the practice of skull deformation has also been found in the east Mediterranean, contacts (presumably quite distant) have been sought to explain its appearance in the Catacomb culture. All of these suggestions, however, are driven by purely archaeological suppositions rather than linguistic and while IE-speaking populations must be accommodated in Anatolia (where there is really no serious evidence for "Catacomb migrations") or later in north Syria (Indo-Aryans among the Mitanni), there is no reason to postulate IE-speakers in Palestine in the late fourth or third millennium BC. One further diagnostic item is the hammer-head pin, a characteristic ornament of the Catacomb culture which has been found much further afield in central Europe and Italy and these have been tied to either folk-expansions or at least the diffusion of a style from the steppe.

As for the ethno-linguistic identity of the Catacomb culture in its own territory, the culture is variously seen as ancestral to Indo-Iranians or perhaps Thracians although there have been some recent attempts to represent it as providing a common background to Greek, Armenian, and Indo-Iranian.

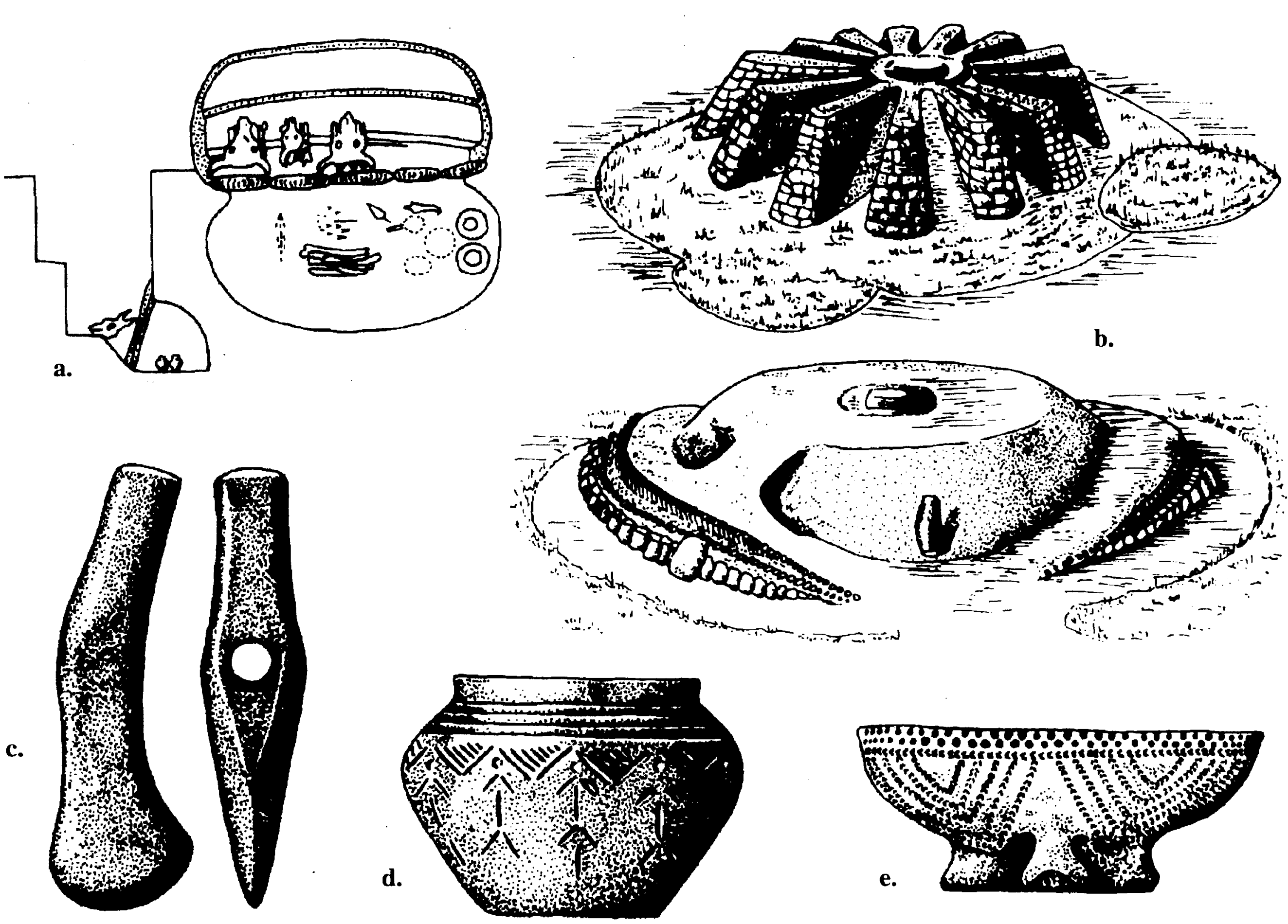
See also POLTAVKA CULTURE; YAMNA CULTURE. [J.P.M.]



Catacomb I a. Distribution of the Catacomb culture(s).



Catacomb I b. Burial under kurgan in Catacomb niche; c. Bone hammer-head pin; d. Artifically deformed skull; e. Stone macehead.



Catacomb II a. Catacomb burial with animal offerings; b. Molochansk ritual site in periods 1 and 2; c. Stone "battle-ax"; d. Catacomb vessel; e. "Censer".

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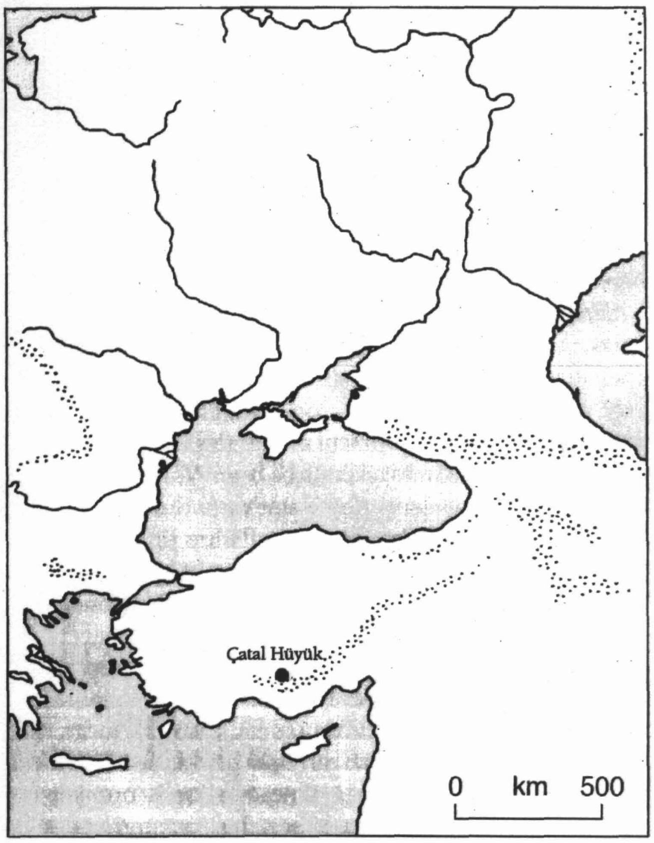
Shepel, E. A. (1996) Populations in the Northern Donets basin from the 3rd to 2nd millennia BC. *JIES* 24, 1-26.

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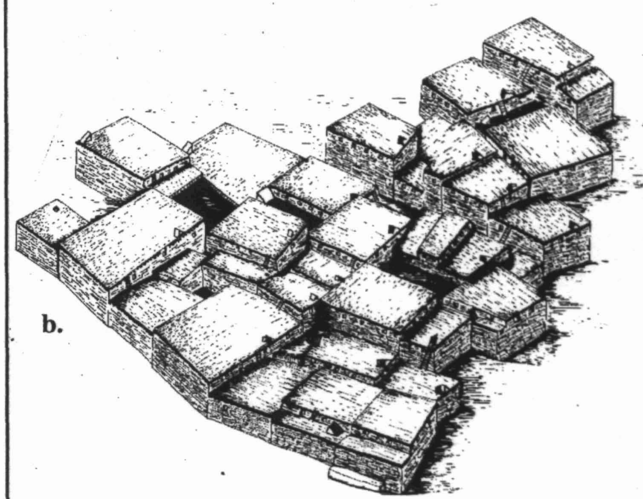
ÇATAL HÜYÜK

Neolithic settlement site in central Anatolia dating *c* 7200–6100 BC. The site occupied 13 ha and although only a small portion was excavated, it revealed an amazing complex of what have been identified as both rectangular multi-roomed dwellings and religious sanctuaries. The economy was based on cattle raising and agriculture—wheat, barley, pea, vetch and wild seeds and fruits. Cattle comprised the largest group of livestock while sheep were apparently still hunted along with a variety of other mammals, including the onager, half-ass, boar, deer, wolf, bear, etc. Lime-plastered rooms with painted walls and plastic decoration of animals, in particular bulls' heads, have supported the concept of a bull cult at Çatal Hüyük. Moreover, an abundance of figurines, particularly female figures, has been interpreted as reflecting devotion to goddesses. Burials were found below house floors and not interred until the body had been exposed and the flesh cleared by birds and insects (an apparent theme on the walls of some of the shrines). Although most burials were unaccompanied by goods, some were associated with a wide range of ornaments and occasionally weapons.

For those who derive the Indo-Europeans from Anatolia, either with the initial spread of the agricultural economy or a somewhat later expansion, the site of Çatal Hüyük has been held up as a typical Proto-Indo-European site. V. A. Safronov, for example, has argued that Çatal Hüyük specifically satisfies all twenty-seven of his lexico-cultural traits that define the PIE community, although most of these—settled life, domestic livestock, agriculture, hunting wild animals, ceramics, etc.—are so generic that almost any Neolithic site in Eurasia could accommodate his criteria and some of his proposed features,

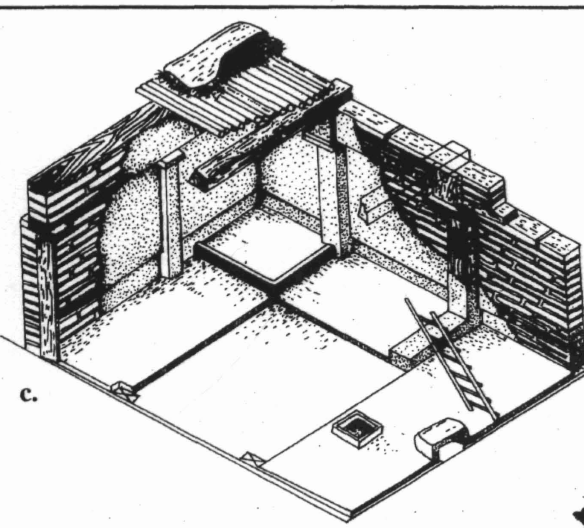


Çatal Hüyük a. Location of Çatal Hüyük.

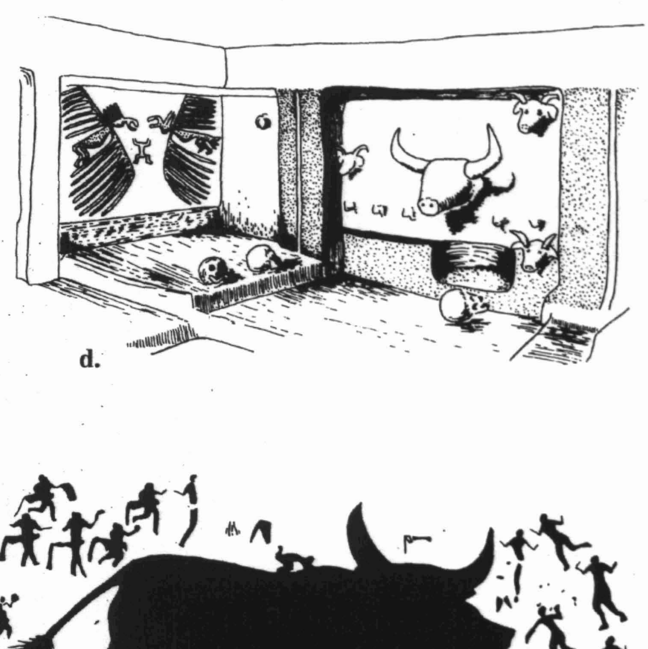


b.

Çatal Hüyük b. Reconstruction of a portion of "town".



c.



d.



e.

Çatal Hüyük c. Interior of room with access from the roof; d. Shrine with wall-paintings of birds defleshing bodies and bull cult; e. Aurochs hunting scene.

e.g., a "written" symbolic system or language, can hardly be regarded as diagnostic markers of the Proto-Indo-Europeans. Opponents to assigning an Indo-European identity to Çatal Hüyük emphasize that it actually fails to meet the minimum requirements of an Indo-European site or culture, lacking as it does the horse and wheeled vehicles (it antedates the appearance of wheeled vehicles anywhere by some two millennia); that its proto-urbanism is very much at variance with both the lexico-cultural evidence and the emergence of most IE groups in history; that its "goddess-centered" religious ethos is contradicted by the reconstructed male deities and the strongly patriarchal society of the early Indo-Europeans; and that it occupies a territory which is later assigned to the Hatti, the non-IE occupants of the lands settled subsequently by the Hittites.

See also ANATOLIAN LANGUAGES; INDO-EUROPEAN HOMELAND. [J.P.M.]

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CAVE *see* CAVITY

CAVITY

h$_2$elu̯os* ~ **h$_2$eulos 'elongated cavity, hollow'. [*IEW* 88–89 (**au-lo-s*); cf. GI 523]. From **h$_2$elu̯os*: Lat *alvus* 'belly, womb; hold (of a ship)', *alv(e)ārium* 'beehive', Hit *halluwa-* 'hollow, deep'; from **h$_2$eulos*: Norw *aul* '*Angelica sylvestris*', OPrus *aulinis* 'leg of a boot', Lith *aũlas* 'leg of a boot', *aulȳs* 'beehive', OCS *ulica* 'alley', Rus *úlica* 'street', *úlej* 'beehive', Grk *αὐλός* 'flute', *ἔναυλος* 'river bed', Arm *uł* 'way', TochB *aulon̄* 'blood vessels'. The notion of 'beehive' comes from that of a hollow tree for a swarm. The metathesis of the **-l-* and the **-u-* parallels that seen in Lat *nervus* 'nerve' and Grk *νεῦρον* 'nerve'. Distribution indicates PIE age.

ĝhh$_a$u̯os 'gaping hole'. [*IEW* 449 (**ĝhēu-*); Wat 23 (**ghēu-*); BK 234 (**ga-/*gə-*)]. Grk *χάος* (< **χάϝος*) 'chaos, infinite space', *χαῦνος* 'gaping', TochA *ko* 'mouth', TochB *koym̥* 'mouth' (< **ĝhuh$_a$iom* < **ĝhh$_a$ui̯om*, or < **ĝhoh$_a$iu?*—the exact form of the Proto-Tocharian word, much less its PIE antecedent, is unclear). With suffix in north European: OE *gōma* 'gum, palate' (> NE *gum*), OHG *goumo* 'gum, palate', Lith *gomurȳs* 'palate'. From **ĝheh$_a$u-* 'gape, yawn'.

h$_2$érios 'cavity'. [Puhvel 3:143–144]. Arm *ayr* 'cave', Hit *hariya-* 'valley, vale, dale'. Cf. also Lith *armuõ* 'abyss, bottom, depth'. Despite the limited number of attestations, this word is probably old in IE.

k̂óuh$_x$r̥ (gen. ***k̂uh$_x$nós***) 'hole, opening'. [*IEW* 593–594 (**kuu̯r̥*); Buck 12.72]. Lat *caverna* 'cave', Grk *κύαρ* (< **k̂ūh$_x$r̥*) 'eye of the needle; opening of the ear', Arm *sor* (< **k̂ouh$_x$ero-*?) 'hole', Av *sūra-* 'hole, gap', OInd *śū́na-* 'lack', *śūnyá-* 'empty, hollow', TochB *kor* (< **k̂ūh$_x$r̥*) 'throat'. Derivatives from the root **k̂óuh$_x$-* include MIr *cūa* 'hollow', Wels *cau* (< **k̂óuh$_x$u̯os*) 'hollow, concave', Bret *kao* 'cave', Lat *cavus* 'hollow' (whence NE *cave*), Alb *thellë* (< **k̂óuh$_x$-i-lo-*) 'deep', Grk (Hesychius) *κόοι* (pl.) 'cavities in the earth', *κοῖλος* (< **k̂óuh$_x$-i-lo-*) 'hollow'. The term primarily indicates a depression in a surface but may also refer to an opening of some depth, even a gap. The geographical distribution strongly suggests PIE status.

k̂oiu̯-is* ~ **k̂oiu̯-eh$_a$- '± tube'. [*IEW* 919–922 (**skēi-*)]. Lith *šeivà* ~ *šaivà* 'spool', Latv *saiva* 'spool', OCS *cěvĭnica* 'lyre, pipe', Polish *cewa* 'tube, pipe', TochB *kaice* '± trough, tub; body of lute' (< **koiu̯e-Ten-*, or **koiu̯i-Ten-*). The Baltic represents a satəm-development of **k̂-*, the Slavic a centum-development. Sometimes taken to be from **(s)k̂ei-* 'cut, split' but semantically the derivation seems most dubious.

?*káiu̯r̥(t)* (gen. ***kaiu̯n̥tós***) 'cave, fissure (in the earth)'. [*IEW* 521 (**kaiu̯r̥-t*); BK 271 (**k[h]ay-/*k[h]əy-*)]. Grk (Hesychius) *καίατας* (pl.) 'ditches, fissures opened by earthquakes, (Doric) *καιάδᾱς* 'pit or underground cavern in Sparta into which state-prisoners or their corpses were thrown', OInd *kévaṭa-* 'cave, hollow'. Limited distribution suggests at best a word of the center and east. The meanings range from a gap caused by an earthquake to a place in which to throw bodies of criminals. One of a small number of proposed Greek-Old Indic isoglosses, this equation has been challenged in both Greek and Old Indic etymological dictionaries.

See also MOUTH; VALLEY. [A.D.V., D.Q.A.]

CEDAR *see* JUNIPER

CELTIC LANGUAGES

The Celts emerge in historical records during the first five centuries BC when they dominated much of western and central Europe and had begun impinging on the literate peoples of the classical world. Known to the Greeks as the *Κελτοί* and Romans as *Celtae* or *Gallatae*, they are most closely identified with the La Tène culture (*c* 500–1 BC) of western Europe but, as the distribution of Celtic languages exceeds that of La Tène metal work, Celtic origins and initial expansions no doubt lie still earlier in the Iron Age or Bronze Age. Usually, the period of Proto- or Common Celtic is set to *c* 1000–500 BC.

Continental Celtic

The Celtic languages are geographically and historically divided into two broad groups—Continental and Insular Celtic. Of the two, the Continental Celts have left the earlier sources but these are neither abundant nor did any Continental Celtic language survive late antiquity. The ancient Gauls came into close contact with the Greek trading colony at Massilia (Marseilles) from whence they eventually adopted a form of the Greek alphabet to leave about seventy monumental inscriptions and several hundred others on the

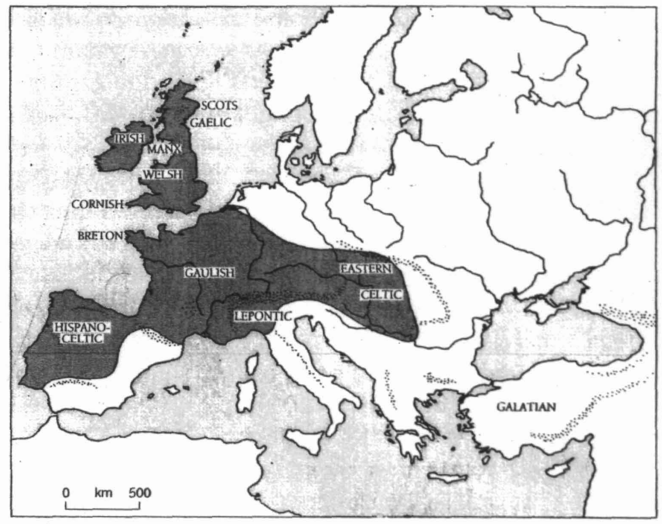
sides of pots. These date from the end of the third century BC while other inscriptions in central Gaul appear to date to the first century BC. Other than these short dedicatory inscriptions, the Gauls have also left some more extensive documents of a religious nature such as the *c* 64-word lead tablet from Chamalières and the *c* 160-word inscribed tablets from a burial at Hospitalet-du-Larzac. The most famous extensive document is the Coligny Calendar, a much mutilated bronze tablet providing the names of sixty-two Celtic months covering a five year span and designating days as 'bad' or 'good', i.e., Gaul *mat(u)*, cf. OIr *maith*, Wels *mad* 'good', an extraordinary testament of the early Celts' astronomical and astrological proclivities.

The Gaulish inscriptions provide us with some evidence for morphology and better evidence for personal and mythological names (e.g., the same name of a deity is found in Gaul *Lugus* and OIr *Lug*). These names, coupled with the extensive references in Latin literature and later recorded place names, are of considerable comparative interest in association with similar evidence from the Insular Celts. It is clear that the Gauls were largely P-Celtic, i.e., they had replaced the PIE labio-velar *$*k^w$- with a pure labial *p*, hence Gaul *petru-* 'four' but OIr *cethair*, Lat *quattuor*, etc. Nevertheless, even in some of the the Gaulish inscriptions, place names or the Coligny Calendar, there are still traces of the labio-velar, rendered in Gaulish as *qu*, e.g., *Sequanna* (the River Seine). What is also to be noted is that the Gauls themselves were not linguistically unified and there is considerable (and predictable) variation from one region to another.

Celts, under a chief named Brennus, are reported to have sacked Rome in 390 BC and settled extensively in northern Italy where they formed the province of *Gallia Cisalpina*. These Celts were subjugated by the Romans by 192 BC but their language partially survived as Lepontic. The inscriptional evidence for Lepontic, devised in an Etruscan-derived alphabet, is the earliest of any of the Celtic languages and begins about the sixth century BC and runs to the first two centuries BC. These inscriptions largely coincide with the territory of the Golasecca culture and confirm the presence of Celts in northwest Italy before the sacking of Rome. The Lepontic inscriptions are frequently of a funereal nature while there are also about sixteen coin inscriptions. The narrow geographical range of Lepontic has suggested that it be treated as a dialect of Gaulish but it also shows a number of more conservative features than Gaulish.

Celtic tribes also exploded into southeastern Europe where they sacked Delphi in 279 BC. These latter invaders also settled in present day Turkey in 270 BC and became the Galatians who gave their name to the later Roman province to whom St Paul later addressed his Epistle. In general, the language of these Eastern Celts is known entirely from coin inscriptions, place and personal names.

The third main branch of Continental Celtic is variously known as Ibero-Celtic or Hispano-Celtic which is attested in Iberia between Burgos on the west and Zaragoza on the east.



Celtic Distribution of the Celtic languages.

The first references to Celts in Spain may date to the time of Herodotus (mid-fifth century BC) who claimed that Celts occupied lands even beyond the Pillars of Hercules (Straits of Gibraltar) and the name Celti-Iberian emerges by the third century BC. Evidence for Hispano-Celtic is to be found on inscriptions written in a syllabic script borrowed from the native non-Indo-European populations of Iberia. Occasionally, texts are also found in the Roman script. The Hispano-Celtic inscriptions are generally short and date to the first centuries BC. These consist of about fifty coin inscriptions, and about thirty longer ones, some of which are of considerable length. The longer inscriptions include *tesserae hospitales*, documents reflecting pacts between individuals or communities. The bronze tablet that carries the Botoritta inscription runs to *c* 190 words and a much longer inscription has been recently discovered suggesting that we are a long way from fully realizing the potential of Hispano-Celtic for the study of the Celtic stock. Unlike Gaulish and Lepontic, Hispano-Celtic retains the PIE labio-velars. In the years after 220 BC, Iberia was assimilated into the Roman world and its native languages, other than Basque, became extinct. In Portugal there is evidence of another IE language, Lusitanian, which has sometimes been regarded a dialect of Hispano-Celtic but more often has been given separate language status. Tartessian, a language of the southernmost tip of Iberia, also shows some traces of Celtic in its personal names.

The extinction of the Celtic languages is largely due to the spread of Latin or, in regions peripheral to the center of Celtic expansion, the absorption of Celtic speakers by resident populations. Writing in the fifth century, St Jerome suggested that a language spoken in the territory of the earlier Galatians was similar to that of the Treveri, a Gaulish tribe living in the vicinity of Trier which has been taken by some to suggest that Celtic had survived in both regions until this time while it has also been argued that Gaulish survived in Brittany to

Proto-Indo-European and Celtic Phonological Correspondences

PIE		Celt	PIE	OIr	Wels
*p	>	ø	*pl̥tnos* 'wide'	*lethan* 'wide'	*llydan* 'wide'
*b	>	b	*pibeti* 'drinks'	*ibid* 'drinks'	*ib-* 'drink'
*bh	>	b	*bhuĝos* 'goat'	*boc* 'buck'	*bwch* 'buck'
*t	>	t	*tauros* 'bull'	*tarb* 'bull'	*tarw* 'bull'
*d	>	d	*di̯ē-* 'day'	*dīa* 'day'	*dydd* 'day'
*dh	>	d	*dhu̯ōr* 'door'	*dorus* 'doorway'	*dôr* 'door'
*k̑	>	c	*k̑(u)u̯ōn* 'dog'	*cū* 'dog"	*ci* 'dog'
*ĝ	>	g	*ĝenu* 'jaw'.	*gin* 'mouth'	*gên* 'cheek'
*ĝh	>	g	*ghn̥dne/o-* 'find'	*ro-geinn* 'finds room'	*gann-* 'find room'
*k	>	c	*kreuh$_a$-* 'blood'	*crú* 'blood'	*crau* 'blood'
*kʷ	>	c	*kʷetu̯er-* 'four'	*cethair* 'four'	*pedwar* 'four'
*gʷ	>	b	*gʷōus* 'cow'	*bō* 'cow'	*buch* 'cow'
*gʷh	>	g	*gʷhedhie/o-* 'ask'	*guidid* 'asks'	*gweddi* 'prayer'
*s	>	s	*sénos* 'old'	*sen* 'old'	*hen* 'old'
*i̯	>	ø	*h_1i̯uh$_x$n̥k̑os* 'young'	*ōac* 'young'	*ieuanc* 'young'
*u̯	>	w	*u̯eh$_1$ros* 'true'	*fīr* 'true'	*gwir* 'true'
*m	>	m	*meh$_1$l-* 'small animal'	*mīl* 'animal'	*mil* 'animal'
*n	>	n	*néu̯ios* 'new'	*nāue* 'new'	*newydd* 'new'
*l	>	l	*legh-* 'le'	*lige* 'bed'	*lle* 'bed'
*r	>	r	*réumn-* 'horse-hair'	*rón* 'horse's mane'	*rhawn* 'horse's mane'
*n̥	>	en (W an)	*dn̥gʷheh$_a$t-* 'tongue'	*tengae* 'tongue'	*tafawd* 'tongue'
*m̥	>	em (W am)	*k̑m̥tóm* 'hundred'	*cēt* 'hundred'	*cant* 'hundred'
*l̥	>	li	*pl̥tnos* 'wide'	*lethan* 'wide'	*llydan* 'wide'
*r̥	>	ri ~ ar	*k̑r̥di̯eh$_a$-* 'heart'	*cride* 'heart'	*craidd* 'midpoint'
			mr̥u̯ós 'dead'	*marb* 'dead'	*marw* 'dead'
*e	>	e	*dék̑m̥* 'ten'	*deich* 'ten'	*deg* 'ten'
*ē	>	ī	*u̯eh$_1$ros* 'true'	*fīr* 'true'	*gwir* 'true'
*i	>	i	*pibeti* 'drinks'	*ibid* 'drinks'	*ib-* 'drink'
*ī	>	ī	*h$_a$rīh$_x$mos* 'number'	*rīm* 'number'	*rhif* 'number'
*o	>	o	*roth$_2$os* 'wheel'	*roth* 'wheel'	*rhod* 'wheel'
*ō	>	ā	*doh$_3$nus̯* 'gift'	*dān* 'gift'	*dawn* 'gift'
*a	>	a	*h$_a$enh$_1$tlo-* 'breath'	*anāl* 'breath'	*anadl* 'breath'
*ā	>	ā	*méh$_a$tēr* 'mother'	*māthair* 'mother'	*modrydaf* 'queen-bee'
*u	>	u	*srutus* 'flowing'	*sruth* 'stream'	*ffrwd* 'stream'
*ū	>	ū	*kūh$_x$los* 'back(side)'	*cūl* 'back'	*cil* 'back'
*h_1	>	ø	*$h_1$ék̑u̯os* 'horse'	*ech* ' horse'	*ebol* 'colt'
*h_2	>	ø	*h_2ŕ̥tk̑os* 'bear'	*art* 'bear'	*arth* 'bear'
*h_3	>	ø	*$h_3$elVn-* 'elbow'	*uilen* 'corner'	*elin* 'elbow'
*h_4	>	ø	*$h_4$órĝhii̯eh$_a$-* 'testicle'	[MIr] *uirge* 'testicle'	–

play an important role in the formation of the Breton language. Whether this latter observation was accurate or not, there is very little evidence other than in Brittany that the Celtic languages on the Continent had not largely disappeared by c 400 AD.

Insular Celtic

The surviving Celtic languages all belong to the Insular Celtic group and derive from ancient languages spoken in the British Isles before the Roman conquest of Britain. The Insular Celtic languages are traditionally subdivided into two groups: Goidelic and Brittonic (or Brythonic), with Goidelic also being termed Q-Celtic because of its retention of the PIE labio-velar while Brittonic is similar to Gaulish in its alteration of *k^w to *p*, e.g., Lat *quinque* 'five' and OIr *cóic* 'five' but OWels *pimp* 'five', cf. Gaul *pempe* 'five'. These differences are trivial in that they are met elsewhere within other IE stocks and do not alone provide a basis for distinguishing languages. There is considerable disagreement among Celticists concerning the historical implication of the division between Continental Celtic and Insular Celtic. Some argue that the shared innovations of all the insular Celtic languages indicate

that they represent a separate division of Celtic and shared a common prehistoric linguistic development apart from that indicated in the Continental Celtic languages. Others, however, argue that certain conservative features are to be found explicitly in Goidelic, Hispano-Celtic and perhaps Lepontic which indicate that they represent an early Celtic spread along the periphery while the central core of Celtic languages, i.e., Gaulish and Brittonic, are more closely related to one another.

The earliest evidence for Insular Celtic is to be found in the works of Greek and Roman travellers and, consequently, comes at least second or third hand. It begins about the fourth century BC with names gleaned from the travels of the geographer-explorer Pytheas (*c* 325 BC) and continues throughout the classical period, e.g., Ptolemy's description of the British Isles (*c* 2nd century AD) with names of rivers, tribes, and places. The Roman Conquest of Britain from the Claudian invasion of *c* 43 AD onwards set the stage for considerable bilingualism in Britain where approximately 800 Latin words were borrowed into the Brittonic vocabulary.

Native British coin inscriptions, beginning about the first century BC, provide some of the earliest native testimony for the Brittonic language. More useful are Brittonic inscriptions that date to about the fifth century AD. Irish missionaries reintroduced literacy to post-Roman Britain where we can subsequently see the emergence of the main Brittonic languages. The principal language is Welsh which may have been written as early as the sixth or seventh centuries AD, the period assigned to Archaic Welsh, and its traces rest almost entirely in place-names and personal names in Latin documents. Old Welsh marks the period from the ninth to twelfth centuries while the period with far more abundant texts, Middle Welsh, runs from the twelfth to fifteenth. Modern Welsh is set to begin about the fifteenth century. Welsh has survived better than Irish, benefiting from a much closer association with the attempts of the Methodist church to increase literacy, which stimulated the use of Welsh in the reading of the Bible and in hymns.

Cornish, which is derived from the early Brittonic languages of south-western Britain, is first attested in the Old Cornish period (*c* 800–1200). Other than place or personal names, the main source of information is the *Vocabularium Cornicum*, a Latin-Cornish glossary with 961 entries. Most of our evidence derives from the Middle Cornish period (*c* 1200–1575 AD) and mainly from late mediaeval plays dating to around 1450–1500. Late Cornish begins *c* 1575 and includes a few religious works and plays but by then the language was in a state of collapse and it became extinct by 1800. Although there has not been a native speaker for nearly two centuries, a revival movement has resurrected the Cornish language (taking the more abundantly represented Middle Cornish grammar and pronunciation as its model) and some thousand people now claim to know at least some Cornish.

Breton occupies the most controversial place of the Celtic languages since its origins are confused if not disputed. The traditional explanation involves a migration of Celtic tribes to Brittany from southwest Britain in the fifth to seventh centuries, impelled either by Anglo-Saxon pressure from the east or Irish pressure from the west. The natural problem is that the goal of such a migration was a formerly Celtic-speaking territory of Gaul and the traditional explanation presupposes that Celtic had become entirely extinct in this region before the introduction of Insular Celtic. There is a school of thought that argues that such a scenario may be disproved and that the Breton language actually represents a fusion of both British colonists and existing late Gaulish speech. Breton is divided into Primitive Breton (*c* 500–600 AD), Old Breton (*c* 600–1000 AD), Middle Breton (*c* 1000–1600 AD) and Modern Breton from 1600 onwards. Breton has been largely losing a battle against monoglot French-speakers and today all Breton speakers are bilingual. Estimates of the number of speakers runs about 550,000, largely in the older age ranges although there are now serious attempts to insure that the language does not become extinct.

The home of the Goidelic languages is Ireland. Here, the earliest native evidence consists of Ogham Irish, known from *ogham* inscriptions from about the fourth–sixth centuries AD. The ogham system of writing was devised by someone familiar with Latin, although the actual graphic system is very different and consists of patterns of notches scratched on the corners of memorial stones. These ogham inscriptions are confined largely to southern Ireland (*c* 350 examples) and Wales (*c* 50 examples) where the Irish attempted to establish colonies during the collapse of Roman rule. These inscriptions retain the Celtic case endings and are easily comparable to both the earliest British inscriptional evidence and that of the Continental Celts. Subsequently, the case endings and much else were lost during the extremely brusque restructuring of the Irish language in the fifth and sixth centuries. An indication of this simplification can be seen in the ogham name CUNAGUSOS which, by the seventh century, was rendered Congus. The seventh century coincides generally with the period designated as Archaic Irish but most of the early evidence for the Irish language derives from Old Irish. This is the state of the language which was written in the Latin alphabet of early Irish Christianity and set to the period c 700–900 AD. Old Irish provides a relatively voluminous body of material, the earliest of which is clearly religious, e.g., glosses and commentaries on the Bible, but also includes a body of native narrative and historical literature as well as poetry. Among the most marked characteristics of Old Irish are such features as the construction of words with numerous prefixes, the use of infixed pronouns, the "conjugation" of prepositions according to person, and a particularly complicated system of verbal endings. Middle Irish is the name given to the literature of the period *c* 900–1200 AD and Modern Irish (with *c* 180,000 speakers) runs from *c* 1200 onwards.

The Goidelic language was spread by Irish immigrants to both Scotland and the Isle of Man from about the fifth century AD onwards. The Scots employed the Irish standard as their

literary language up until the seventeenth century and the birth of a distinctive Scots Gaelic is generally set to about the thirteenth century and the spoken vernacular (*c* 80,000 speakers) has emerged very much as a separate Goidelic language. A Goidelic language was introduced to the Isle of Man about the fourth and fifth centuries when the Irish were attempting to expand into western Britain. Manx was not recorded until the seventeenth century and although it was the main language of the Isle of Man through the eighteenth century, it was completely replaced by English in the twentieth century with the last native speaker dying in 1974. However, by this time Manx language enthusiasts had begun studying Manx from the last native speakers and a revived Manx survives among about 650 people.

Description of Celtic

Although the Continental Celtic languages are important for the elucidation of Proto- or Common Celtic, the abundant texts of the Insular Celtic languages, primarily Old and Middle Irish, coupled with Welsh, provide the basic comparative foundations of the Celtic languages and the evidence by which the Celtic stock contributes to the reconstruction of PIE. Phonologically, the most familiar characteristic of the Celtic languages is the loss of PIE **p* in Celtic, e.g., Lat *pater* 'father', *porcus* 'pig', and *piscis* 'fish' but OIr *athair* 'father', MIr *orc* 'pig', and OIr *īasc* 'fish'; also, the Celtic languages de-aspirated the PIE aspirated stops so that they fell together with the non-aspirated stops, i.e., PIE **gh/g* > Celt **g*, PIE **dh/d* > Celt *d*, and PIE **bh* > Celt **b*. Among the vowels, PIE **ē* > Celt **ī*, and PIE **ō* > Celt **ā*. The most unusual features of the Celtic languages are to be found in the Insular Celtic languages. These exhibit, on the one hand, certain quite archaic features, particularly in the verbal system and word order, but also many features found only in Insular Celtic, such as "conjugated" prepositions, e.g., OIr *la* 'with', but *lem* 'with me', *lat* 'with you', *leiss* 'with him'; infixing of pronouns, e.g., OIr *berid* 'he carries' but *no-m-beir* 'he carried me'. The restructuring of the Insular Celtic languages also resulted in mutation, where the initial of a word experiences the effect of the ending of a preceding word in the same clause even though the ending has been dropped. For example, where a nasal ending previously existed, it will modify the initial of the following word to a corresponding nasal, e.g., OIr *secht* (< **septem*) *n-ocht* (< **oktō*) 'seven eighths'.

The dialectal position of the Celtic languages is disputed in detail although not in general. Similarities with Italic led to the presumption of an Italo-Celtic stage before the emergence of the individual stocks, and there is little question that both Celtic and Italic do share a number of common features, e.g., several preverbs, assimilation of **p*...k^w to k^w...k^w (e.g., PIE **penk*^{w}*e* 'five' > Lat *quinque*, OIr *cōic*), the superlative suffix **-isṃmo-*, the optative in *-ā-*, a number of uniquely shared lexical items, e.g., Lat *terra*: OIr *tīr* 'land'. By the 1960s, closer examination of all the putative shared features by a number of scholars suggested that so few correspondences existed and the differences were so great that the concept of a period of Italo-Celtic unity was largely rejected. It was argued that both stocks appear to have developed independently from late PIE although there may have been occasional contacts. But despite the collapse of the Italo-Celtic hypothesis, most attempts to reconstruct the interrelationships of the IE languages tend to group Italic and Celtic closer to one another than to most other IE languages and there are some today who wish to resurrect some form of Italo-Celtic hypothesis. Against the broader spectrum of dialectal relationships, Celtic is often held to be a peripheral language which separated rather early (but after Anatolian) from the main continuum of late IE dialects.

Celtic Origins

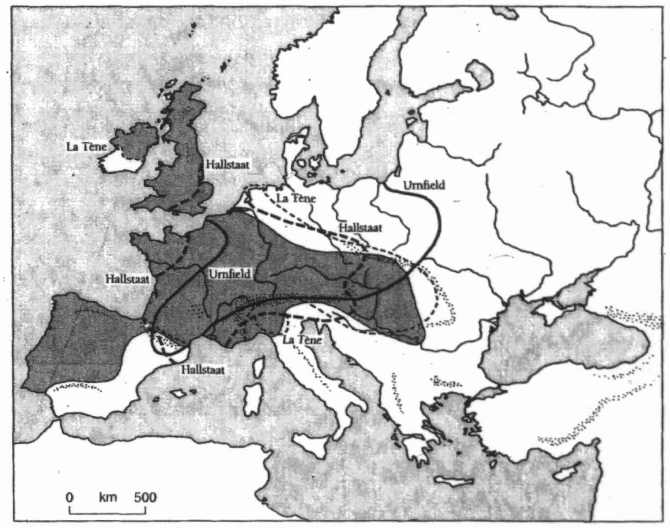
The earliest historical references to the Celts, dated to the sixth and fifth centuries BC, place them broadly between southwest Iberia and the Atlantic on the west to near the mouth of the Danube on the east. By the fifth century BC, the distribution of many of the Celts of western and central Europe coincides in general with the La Tène art style that dominated Europe north of the Alps and the equation Celts = La Tène is broadly correct for this region as long as one understands that La Tène art could and did spread beyond the borders of Celtic speech and that not all Celts can be associated with a La Tène artwork. This divergence between the distribution of Celtic speech and La Tène culture is particularly true of Lepontic which is clearly linked to the Golasecca culture and whose inscriptional evidence predates the appearance of the La Tène. In Iberia there is effectively no evidence for the La Tène and southern Ireland is similarly devoid of La Tène metal work despite the fact that this very region provides the earliest inscriptional (ogham) evidence in Ireland for a Celtic language. On the other hand, the appearance of graves with intrusive La Tène metalwork in east central Europe does tend to correlate with historical testimony concerning the eastward movement of Celts. In short, the La Tène provides an imperfect marker for the sphere of influence of the Celts and may attest late expansions but cannot reflect the area of the earliest distribution of (Proto- or Common) Celtic speakers.

The La Tène is generally seen as an organic outgrowth (under the admittedly heavy stylistic influence of Greek and eastern models that penetrated western Europe through Greek colonies in Marseilles and elsewhere) of the west European Hallstatt culture. The Hallstatt culture (800–500 BC) has a broader distribution than the La Tène but also does not provide evidence of a unitary "Celtic phenomenon". For example, it is represented in Iberia but only very minimally so. A similar situation obtains in Ireland where about fifty bronze copies of Hallstatt swords provide the primary evidence for a Hallstatt "culture". From this evidence it is clear that there is not a single Iron Age culture that can explain the origin and dispersion of all the Celts.

Generally, the archaeological evidence for continuity can be traced further to the late Bronze Age Urnfield culture of

the thirteenth century BC and even earlier but with a decreasing sense of linguistic utility. It is clear from the Celtic languages that they shared common words for 'iron' and other technological items ('shield', 'caldron', etc.) that they are unlikely to have encountered anywhere prior to the Urnfield or late Bronze Age. Moreover, the Golasecca culture of northwest Italy is part of the general Urnfield phenomenon and there is some evidence of the spread of the urnfields into northwest Iberia as well. Hence, the initial spread of the Celtic languages may have begun during the late Bronze Age and involved some population movements and later migrations are suspected for the Iron Age. But major shifts in populations are not envisaged: analysis of skeletal remains from the Hallstatt and La Tène, for example, point to broad homogeneity among western and central European populations with more marked differences between them and those of the British Isles. Similarly, it has not been possible to discern any particularly genetic features which are shared by all of the main Celtic-speaking populations, even in the British Isles. Here the physical and genetic composition of the Celtic populations has generally been regarded as merely "residual" or "peripheral" European rather than particularly derived from some continental Celtic "homeland". For this reason archaeologists in western Europe have also emphasized other social processes that may have led to the spread of the Celtic languages. The establishment of Bronze Age hillforts and later centers of Iron Age chieftains has been viewed as providing an arena for language change and diffusion with varieties of Celtic expanding along marriage networks between the social elites (vaguely like French among the Russian nobility of the early nineteenth century) or via travelling craftsmen who received the patronage of such elites. It has even been suggested that Celtic may have served as something of a pidgin or *lingua franca* among the trade-routes of western Europe. This latter theory, however, seems most unlikely as pidgins are characterized by brusque simplification of grammar, a feature that is hardly supported by both the conservatism of reconstructed Common Celtic and the complicated evolution that some of the Celtic languages took, such as Old Irish with its augmentation of the existing verbal forms.

Finally, there are those who hold to a theory of Indo-European origins that would seek the roots of all IE stocks in Europe in the spread of the agricultural economy from the Near East. Such a model would have the (Proto-) Celtic stock emerging out of the languages of the Neolithic inhabitants of western Europe during the period *c* 5000–4000 BC. This model, however, seems most unlikely given the general similarity of all the Celtic languages with one another that we find with the first inscriptional evidence, e.g., the Old Irish expression 'the women' would be rendered *inna mnā* which, were we to find it on an ogham inscription of the fourth-seventh century AD, would have been written **indās mnās*, the precise form that we do find it on a Gaulish inscription of *c* 100 AD. It is most improbable that the (Proto-) Celts were able to maintain parallel linguistic development from Ireland



Celtic The archaeological antecedents of the Celtic languages (shaded area).

across western continental Europe from the beginning of the Neolithic to the historical period, a time-span on the order of four thousand years. For this reason, linguists have generally confined the search for the Proto-Celts to the later Bronze Age (*c* 1200 BC onwards) or the Iron Age.

As Celtic languages spread in the early historic period, they provide us with cautionary evidence concerning the relationship between the process of linguistic expansion and visibility within the archaeological record. Even where we can trace in time the course of Celtic movements, such as the spread of Goidelic speakers from Ireland to Scotland in the first millennium AD, such a migration is in no way supported by hard archaeological evidence.

See also Golasecca Culture; Hallstatt Culture; Indo-European Languages; La Tène Culture; Urnfield Culture

[J.P.M., D.Q.A.]

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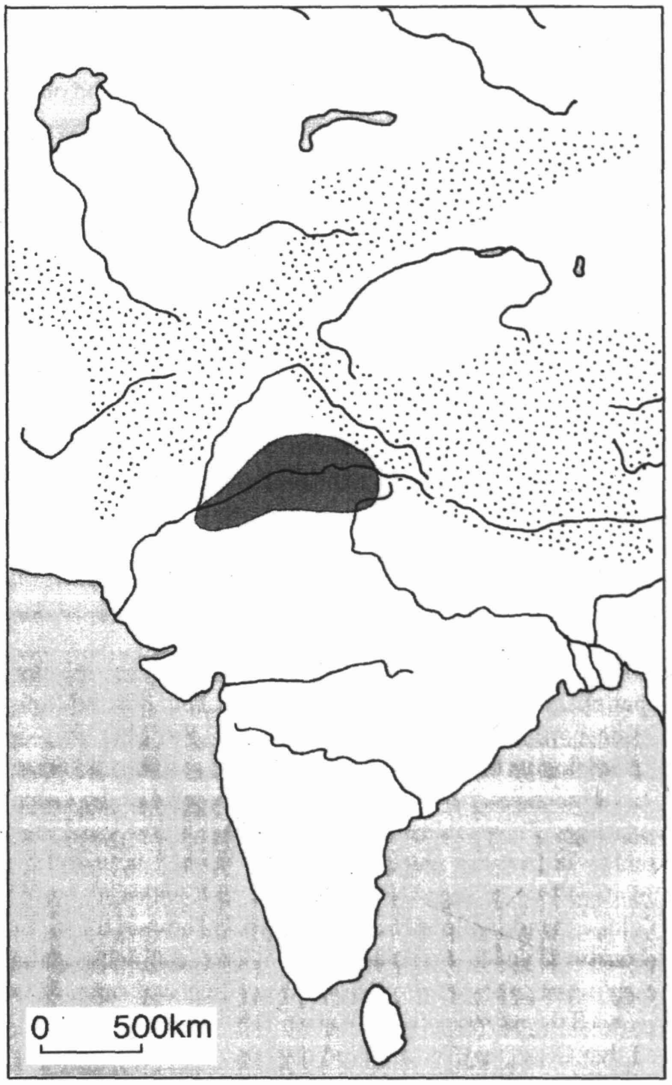
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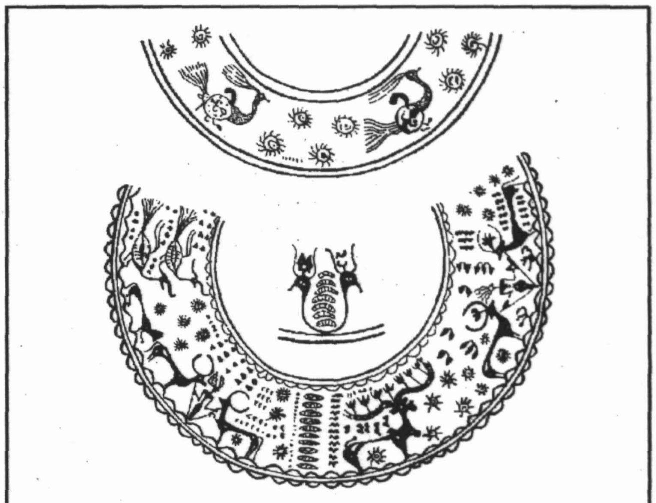
CEMETERY H CULTURE

Indus Valley late Bronze Age culture (*c* 2000–1400 BC) which takes its name from a series of burials deposited in the upper levels of Harappa, one of the major towns of the Harappan culture or Indus Valley civilization. The stratigraphic position of the burials suggests that they followed the collapse of urban society in north India-Pakistan. The burials were dug into a mass of debris of Harappan pottery overlaying an earlier cemetery (designated R 37), which belonged to the Harappan culture. The burials from Cemetery H are divided into two stratigraphical groups: the earliest were extended inhumations while the latter burials involved the deposition of bones (after exposure) in an urn. Among the complete burials, which were accompanied by pottery vessels, there was also some evidence of the sacrifice of a sheep or goat.

The urns, which were covered with lids, generally contained only partial remains of the deceased after exposure. These ranged in age from adults to infants. The upper stratum yielded some 135 urns although many of them contained no evidence of human remains. The ceramics, which consist of forms foreign to the Harappan culture but techniques of manufacture reminiscent of it, have led some to suggest a synthesis of native Indus and foreign elements. Among the ceramics were vessels decorated with peacocks, bulls, a goat and a dog which have been interpreted in the light of Vedic mythology. The excavator of Cemetery H, Maho Sarup Vats, for example, discerned within the body of the peacocks a horizontal figure, the *sūkṣma śarīra*, representing the souls of the deceased in Indic religion. The dogs are compared with the two hounds of Yama, the Indic lord of the dead. The goat is regarded as an archetypal pathfinder. A mythological figure (of uncertain interpretation) is depicted carrying a bow and standing between two bovines. For this reason, the Cemetery H culture has occasionally been regarded as evidence for a mobile and intrusive population associated with early Indo-Aryan movements into India. An earlier theory that the Cemetery H "people" represented Indo-Aryan destroyers of the Indus towns is now rejected since there is a clear hiatus between their burials and the abandonment of the towns. Moreover, the paucity of Cemetery H remains in the Indus region does not support the proposition that it was responsible



Cemetery H a. Distribution of the Cemetery H culture.



Cemetery H b The painted motifs of the Cemetery H vessels have been interpreted as peacocks with the *sūkṣma śarīra*, the souls of the deceased known later in Vedic religion.

for major cultural and linguistic change. On the other hand, certain traits of the Cemetery H culture with regard to cremation have been linked further north to the Swāt culture, which has often been seen as evidence for some form of Indo-Aryan movement toward the sub-continent. The evidence of physical anthropology, however, offers no further support for an intrusive element in the Cemetery H population since anthropological analysis of the skeletons from the Cemetery H inhumations finds them very close to both the early burials of the Swāt culture and the local Harappan (R-37) populations.

See also HARAPPAN CULTURE; INDO-IRANIAN LANGUAGES; SWĀT CULTURE. [J.P.M.]

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CENTAUR

??*gʷhondheru̯os 'centaur'. [Del 73]. Lat *Februus* (presiding god of Lupercales), Grk ***Κένταυρος*** 'centaur', Av *gandərəwa-* (name of monster), Shughni *žindūrv* 'werewolf', OInd *gandharvá-* (mythical being). Most of these comparisons cannot be maintained. The old comparison between the Greek and Old Indic forms is rightly dismissed in etymological dictionaries as fantastic. Nor is Lat *Februus* 'god of death and purification' cognate as it belongs with Grk ***θύω*** 'offer (on the sacrificial fire)' < *'fumigate' (cf. Grk [Homeric] ***θέειον*** 'sulphur [used for purification]' which is derived from PIE **dheu-s-*). The various Indo-Iranian forms may be cognate with one another but lack a clear etymology.

The Greek centaurs (Grk ***Κένταυρος*** 'centaur') are described as a savage bunch of mythical beings, half human, half horse-like, living in the woods or mountains of Elis (Arcadia) or Thessaly. They represent wild life and animal desires; they are lustful, often attempting to rape women; and they indulge in heavy wine drinking. Individual centaurs have myths of their own, like Nessus whom Hēraklēs tackled and who ultimately caused the latter's demise, as he was poisoned by fabric dipped in the dying centaur's blood. Attempts to attribute this term to greater antiquity were made in an early work of Georges Dumézil but the edifice of such a proposal has long since been rejected.

See also HORSE. [E.C.P.]

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CERNAVODA CULTURE

The Cernavoda I culture is a late Copper Age culture (*c* 4000–3200 BC) of eastern Romania and Moldova, situated



Cernavoda Distribution of the Cernavoda culture.

primarily in the lower Danube region. The culture occupied the previous territory of the Gumelniţa culture, part of the continuum of east Balkan tells that had been occupied since the early Neolithic. According to the Kurgan theory of IE origins, the earlier Neolithic culture was destroyed and a hybrid "kurganized" culture involving local and steppe elements was created. The latter is seen in the shift from stable tell settlements to hill-top settlement and defensive architecture (Cernavoda I was surrounded by three ditches), the disappearance of painted wares and their replacement by coarse ware pottery, especially employing shell-temper and/or decorated with cord impressions (both features of steppe ceramics), the abandonment of surface buildings for timber semi-subterranean houses, and the occasional presence of the horse. In Moldova, the Cernavoda culture is attested by cemeteries where the deceased were placed in the flexed position on their left (less frequently right) sides in a pit that might have been elaborated with a timber or stone structure. The covering of the deceased and the bottom of the burial chamber with ocher as well as the tumulus erected over the grave, sometimes with a stone kerb, are all traits also encountered among the steppe cultures. According to the "Kurgan theory", subsequent steppe migrations pushed the Cernavoda culture south and west where its western variant played a part in the formation of a "Balkan-Danubian complex"

of cultures, among which the Baden culture is quite prominent. In the eastern part of its distribution in Moldova, the Cernavoda I culture is one of the components that underlies the foundation of the Usatovo culture.

Cernavoda II and Cernavoda III refer to later cultures in the same general vicinity, the first perhaps reflecting an intrusive steppe culture and the latter a continuation of Cernavoda I into the early Bronze Age. In the historical period, the area of the Cernavoda culture was occupied by Dacian- and Thracian-speaking populations.

See also BADEN CULTURE; DACIAN LANGUAGE; EZERO CULTURE; KURGAN TRADITION; THRACIAN LANGUAGE; USATOVO CULTURE. [J.P.M.]

CHAFF

pelo/eh$_a$-* ~ **pelou- 'chaff'. [*IEW* 802 (**pel-*); cf. Wat 48 (**pel-*)]. Lat *palea* 'chaff', Lith *pelaĩ* 'chaff', Latv *peli* 'chaff', Rus (dial.) *pelá* 'chaff'; OPrus *pelwo* 'chaff', Lith *pēlūs* 'chaff', Latv *pęlus* ~ *pęl(a)vas* 'chaff', OCS *plěvy* 'straw', Rus (dial.) *polóva* 'chaff', OInd (pl.) *palā́vās* 'chaff'. In one form or another, widespread in IE and clearly of PIE date. Related to words for 'dust', e.g., Lat *pulvis* 'dust'.

?*k^{w}et- 'chaff, bran'. [cf. *IEW* 632 (**ku̯ĕt-*)]. MIr *cāith* (< **k^{w}ōti-*) 'needle, bran', Grk *πίτῡρον* (< **k^w$_e$tūro-*) 'bran', (Hesychius) *πήτεα* 'bran'. If these words all belong together, we have evidence for a word of the west and center of the IE world.

See also AGRICULTURE; GRIND; PLANTS; THRESH; WINNOW. [D.Q.A.]

CHARCOAL

h$_x$óngl̥ (~ ***?*h$_x$éngōl***) 'charcoal'. [*IEW* 779 (**angelo-*)]. NIr *aingeal* 'light, fire', OPrus *anglis* 'charcoal', Lith *anglìs* 'charcoal', Latv *ùogle* 'charcoal', OCS *ǫglĭ* 'charcoal', Rus *úgolĭ* 'coal', NPers *angišt* 'charcoal', OInd *áṅgāra-* 'charcoal'. The variation *e/o/ø* of the second syllable and the variation of *o*-stem and *i*-stem suggest that we have new *o*-stem and *i*-stem derivatives of an old root noun in **-l-*, which may itself derive from **h$_x$n̥g^{w}nis* 'fire'. Except for the New Irish and a few others, such as Russian, meaning 'coal', all of the other forms stand for 'charcoal', the almost pure carbon derived by burning wood under controlled conditions, e.g., by covering it with a sod. The cognates in five stocks, in any case, virtually guarantee its PIE status.

g(e)ulo-* ~ **gulom 'fire, glowing coal'. [*IEW* 399 (**g(e)u-lo-*); Wat 20 (**g(e)u-lo-*); BK 299 (**k'al-/*k'əl-*)]. OIr *gūal* (< **ge/oulo-*) 'coal', ON *kol* 'charcoal', OE *col* 'coal' (> NE *coal*), OHG *kolo* 'charcoal' (Gmc < **gulo-*), TochB *śoliye* (< **geulii̯o-* or **geulih$_1$en-*) 'hearth'. The meanings of 'fire, glowing coal' and of TochB 'hearth', suggest but do not prove that in some stocks this word may have had a specific recent meaning crucial in a domestic economy where fire must be preserved through the night or borrowed from a neighbor. By one hypothesis, in fact, this second charcoal word was derived from a verbal root **geu-* 'to glow', but this is speculative. One of the birch-bark containers found with Ötzi, the Neolithic Ice-man, held a variety of pieces of charcoal and leaves that was interpreted as an ember carrier.

Both the charcoal words illustrate isomorphic semantic shifts: an earlier meaning of charcoal (ON *kol*, OCS *ǫglĭ*) shifts to 'coal' as part of technological change while the original meaning is conveyed by a qualified form such as 'charcoal' or 'wood charcoal', e.g., Rus *drevésnyj úgolĭ*.

See also BURN; FIRE; HEARTH. [P.F.]

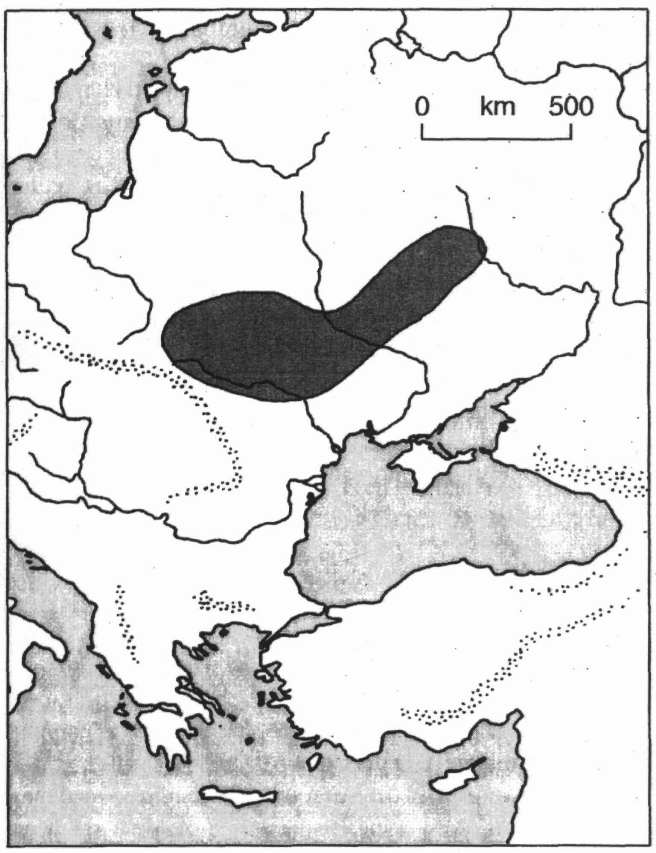
CHERNOLES CULTURE

Situated in the forest-steppe region between the rivers Dniester and Dnieper, the Chernoles culture sees the transition from Bronze to Iron Age (1050–725 BC) northwest of the Black Sea. The culture derives from the preceding Belogrudovka culture that occupied the territory during the Bronze Age. Settlements include both open sites and hillforts which might be surrounded by multiple banks and ditches. Houses were generally surface dwellings and substantial, on the order of 10 x 6 m in size. Material culture comprised objects of stone (axes), bronze (axes, weapons, ornaments) and iron (tools). Distinctive metal horse-bits are known from the culture and even the ritual interment of the horse. Burials vary and there is evidence of both inhumation under barrows and cremation in urnfields, especially in the later periods. The later testimony of Herodotus places the "Scythian Farmers" in the region earlier occupied by the Chernoles culture and this also coincides well with the region of earliest Slavic river names. For this reason, the Chernoles culture is sometimes portrayed as either a stage in the development of the Slavic languages or at least some form of late Indo-European ancestral to the evolution of the Slavic stock. Imports and metallurgical developments suggest that the Chernoles culture was in contact with Scythians from whom a series of Iranian loanwords and river names may have been passed into the (Proto-)Slavic and further, (Proto-)Baltic languages.

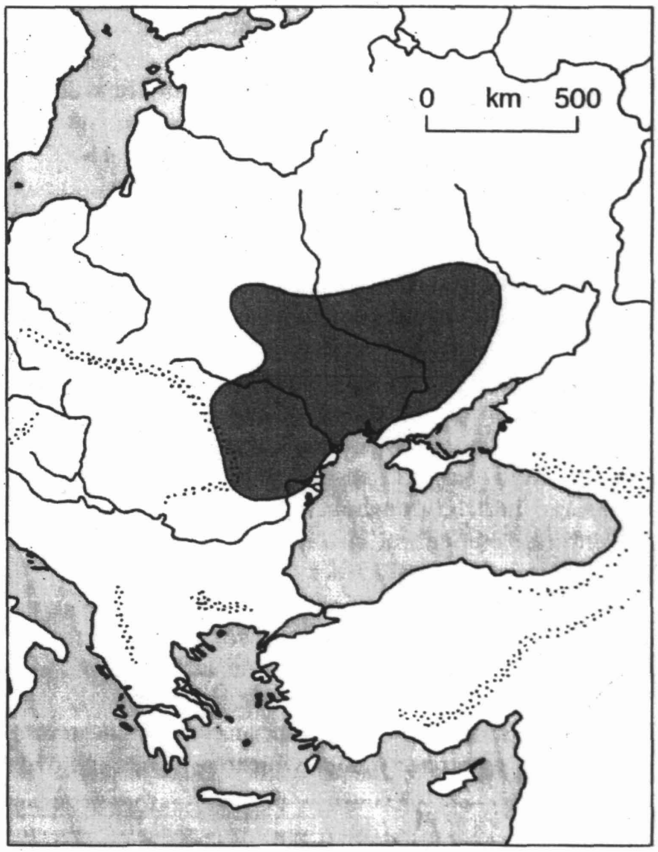
See also SLAVIC LANGUAGES. [J.P.M.]

CHERNYAKOVO CULTURE

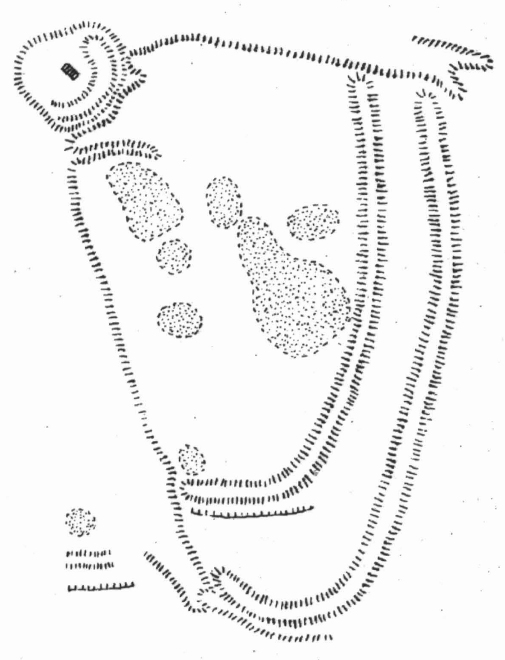
The Chernyakovo culture occupied the northwest Black Sea region (the Ukraine, Moldova, Romania and southern Poland) from the second to the fifth centuries AD. Its sites number in the thousands. Settlements vary considerably in size, the most thoroughly excavated ranging from about twenty-five to forty-five habitations. Houses comprised at least three different types: semi-subterranean structures, surface dwellings constructed of wattle and daub, and stone-built structures. In the later period in the forest region there are post-built walls that foreshadow the typical "Slavic" dwellings of later cultures. Another frequent feature on the settlements were storage pits in which there were found remains of various wheats (*Triticum monoccocum*, *T. diccocum*, spelt) and barley. Clay ovens were also regularly found in the houses. Only a few sites show evidence of defence, such as earthen walls with timber palisades or stone-built walls. Cattle was



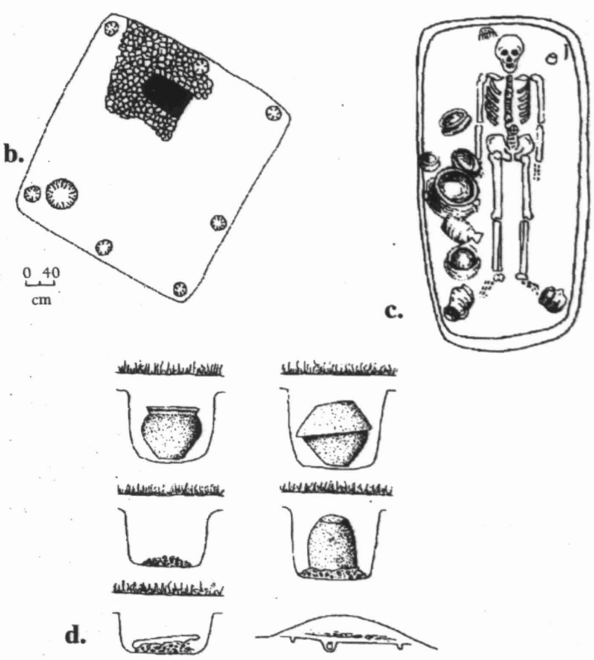
Chernoles a. Distribution of the Chernoles culture.



Chernyakovo a. Distribution of the Chernyakovo culture.



Chernoles b. Hillfort at Chernoles (up to 1.5 km across).



Chernyakovo b. Chernoles house with oven; c. Inhumation grave; d. Varieties of cremation burials.

the primary livestock, followed by sheep, pig and horse; remains of the donkey are also known. The economy was further enhanced by trade with the classical world, and Roman material such as coins, pottery, amber, alabaster, and glass beads, have been encountered on Chernyakovo sites.

Cemeteries of the Chernyakovo culture are well known and many have been excavated. They reveal both inhumations (extended with head to north or west) and cremations in an urn or small pit. Grave-goods were frequent and included pottery, tools, weapons, ornaments and what have been interpreted as food offerings for the dead.

The Chernyakovo culture embraced a territory which was settled by a variety of ethno-linguistic groups. A primary element were the highly mobile Sarmatians who spoke an Iranian language. They are particularly evident in the inhumation burials throughout the region and they occupied not only the steppe but also the forest-steppe, and they replaced or assimilated earlier Iranian speaking Scythian tribes. A second major component is seen to derive from the north, where elements of the Przeworsk and Zarubintsy cultures are particularly marked in cremation rituals. These two cultures are often assigned to the early Slavs. To the west there were also local groups of Dacians and Getae and the area was also penetrated by Germanic tribes. The culture has been presented as a convenient contact zone to explain lexical borrowings between Germans and Slavs, and Iranians and Slavs. The culture was brought to an end in the fourth and fifth centuries AD by the Hunnic migrations.

See also PRZEWORSK CULTURE; SLAVIC LANGUAGES; ZARUBINTSY CULTURE. [J.P.M.]

CHERRY

***kr̥nom** ~ ***kr̥nes-** 'cherry (*Cornus mas*, *Prunus padus*)'. [*IEW* 572–573 (**ker-*); Wat 30 (**ker-*); GI 554–555 (**k^hr̥no-*); Fried 115–121]. Lat *cornus* 'cherry', Lith *Kìrnis* 'divine protector of cherry', Grk *κράνος* 'cherry'.

The hard core of the evidence for the cherry are Latin *cornus* and Greek *κράνος* (cf. also Homeric *κράνεια*, on which Circē fed the 'wallowing swine' into which Odysseus' men had been transformed). These are strongly supported by the name for the Baltic, that is, Lithuanian 'patron of cherries', *Kìrnis* (where Grk *αρ*, Lat *or*, and Lith *ir* are the regular reflexes of PIE syllabic **r̥*). This PIE **kr̥n-* may conceivably be supported by the Slavic form for the red or black cherry such as Rus *čerëmukha* (< **cherem-* < Common Slavic **cherm-* < late PIE **kerm-*) although it should be emphasized that the generally Slavic root for 'black' (e.g., Rus *čërnyj*) is a much likelier source. A Thracian or Phrygian cognate might be the source for the Grk *κέρασος* 'cherry'; Alb *thanë* 'cornel cherry', whatever its precise origin, cannot be placed here as an inherited cognate.

The problematical 'cherry' term could refer to the members of two distinct genera. First, the cornel cherry (*Cornus mas*) was found from central and southern Europe across the Black Sea region to the Caucasus while several species of the cherry (*Prunus* sp.)—bird, sour, mahaleb, and the cherry proper—were found widely over temperate Europe and Anatolia. There is abundant evidence for the consumption of wild cherries in the Neolithic and Bronze Age but the earliest evidence for the domestic cherry does not appear until the classical period. Other than its fruit (which served both humans and as fodder for livestock), the cornel tree along with the shoots of the wayfaring tree (*Viburnum lantana*) were favored for the production of arrow shafts in the Neolithic and Bronze Age. As in some modern languages, the same term (here **k(e)rn-*) may have comprised both genera on the basis of shared properties, notably the succulent, edible and often red or black berries. While the grammatical gender cannot be established, there are lexical and cultural grounds for thinking that the cherry had feminine connotations.

See also TREES [P.F.]

CHICK-PEA

***k̂ik̂er-** 'chick-pea ~ garbanzo (*Cicer arietinum*)'. [*IEW* 598 (**k̂ik̂er-*); Buck 5.67]. Lat *cicer* 'chick-pea', Maced (Hesychius) *κίκερροι* 'birds' pease (*Lathyrus ochrus*)', Arm *siseṙn* (< **k̂eik̂er-*) 'chick-pea'. Grk *κρῑός* (if < **kikriós*) 'chick-pea' is sometimes placed here but is more often rejected as cognate in most etymological dictionaries.

The geographical distribution suggests that this word may be a borrowing from some Near Eastern or Mediterranean source but there is nothing in the shape of the word that demands that it be a loanword. The chick-pea (*Cicer arietinum*) along with the pea (*Pisum sativum*) was part of the early Neolithic wheat-barley agricultural complex although it differs from the latter by being a primarily warm climate plant. The distribution of the wild chick-pea (*Cicer arietinum* subsp. *reticulatum*) is confined to southeastern Turkey and it is from here that the spread of the domestic chick-pea is derived. It appears in archaeological contexts by the eighth millennium BC in sites in Anatolia and Syria in quantities markedly less than *Pisum*. Its earliest appearance in Greece derives from the early Neolithic and it is presumed to have been part of the initial Neolithic suite of domesticates introduced from the Near East. However, unlike the pea, it is not found further to the north and is so far absent from the botanical remains recovered from sites in the north Balkans, Moldova, the Ukraine and the Swiss lakeside sites. It is known, however, in southern France during the Neolithic. Although popular in Italy, its archaeological attestation is very meager before the classical period. Its earliest appearance in Afghanistan and India dates to about the third millennium BC and today India produces 80% of the world's chick-pea crop.

See also AGRICULTURE; FOOD; PEA; PLANTS; VEGETABLES. [D.Q.A., J.P.M.]

CHILD

***teknóm** 'child, offspring'. [*IEW* 1057 (**tek-no-*); Wat 69 (**tek-*); Buck 2.43 cf also 2.27]. ON *þegn* 'man, free servant', OE *þegn* 'servant, follower' (> NE *thane*), OHG *degan* 'servant,

follower', Grk *τέκνον* 'child'. Cf. Av *taxma-* 'seed, offspring', OInd *tákman-* 'child'. Distribution suggests PIE status.

Terms for 'child' often overlap specific kinship labels such as 'son' or 'daughter' or terms for servant. It is doubtful that PIE made extensive use of any gender-neutral term; usually gender specific terms such as 'boy' and 'girl' were employed. One originally neuter term, derived from the root **tek-* 'beget' (Grk *τικτω* < **τι-τκ-ω*), is preserved as 'child' in Greek and matches Germanic terms for 'servant' which is semantically upgraded in many areas to mean 'servant of the king' > 'nobleman' (cf. thane in *Macbeth*). Indo-Iranian cognates suggest an original meaning 'seed, sprout', a meaning also recorded in Greek. Geographically more restricted but showing a similar range of meanings is ON *barn* 'child', OE *bearn* 'child' (> NE *bairn* [preserved in Scotland]), OHG *barn* 'child', Goth *barn* 'child' (< Proto-Gmc **barna-*), Lith *bérnas* 'servant', Latv *bȩ̀rns* 'child', all from **bher-* 'bear (a child)'. Other roots associated with begetting a child were employed, e.g., **ĝenh₁-* 'give birth' which underlies OHG *kind* 'child'. Elsewhere, a variety of terms signifying a 'young animal' are specialized as human terms, e.g., Lat *puer* 'boy' akin to *pullus* 'colt, chick'. Also, terms for 'free' or 'noble' are applied to children as in Lat *līber* suggesting a concept of legitimacy. These latter seem to be individual developments in the various stocks.

See also **Bear**[2]; **Daughter**; **Kinship**; **Son**. [M.E.H.]

CHIN

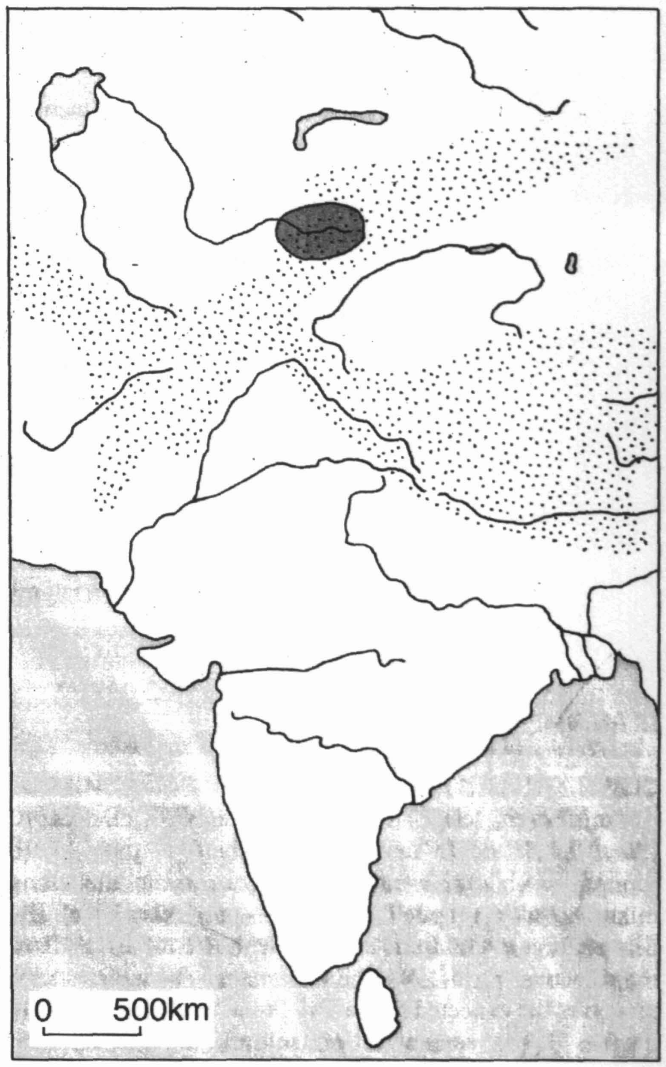
smek̂- 'chin, jaw'. [*IEW* 968 (**smek-*); GI 96–97 (**smek^h-r-*); Buck 4.142]. OIr *smech* (< **smek̂eh$_a$*) chin', Lat *māla* (< **(s)m$_e$k̂slā-*) 'cheek, jaw', *maxilla* (< **(s)m$_e$k̂slolā-*) 'jaw(bone), lower part of face', cf. also **smók̂u̯r̥* 'chin, beard': OE *smǣras* (pl.) (< **smahria-*) 'lips', Lith *smākras* ~ *smakrà* 'chin', Latv *smakrs* 'chin', Alb *mjekër* 'chin, beard', Arm *mawruk'* 'beard', Hit *z(a)mankur* 'beard', OInd *śmáśru-* (< **smaśru-*) 'beard, (especially) moustache'. Clearly PIE in distribution and status.

?*men- 'chin'. [*IEW* 726]. MWels *mant* 'mouth, jaw', Lat *mentum* 'chin' (Italo-Celtic < **mn̥-to-*), Hit *mēni-* 'chin'. The Italo-Celtic on the one hand and the Hittite on the other may well be independent creations from **men-* 'project'. Alternatively, we may have evidence of a root-noun **men-* 'chin' (again derived from **men-* 'project') with different morphological renewals in Italo-Celtic on the one hand and Hittite on the other.

See also **Anatomy**; **Hair**; **Jaw**. [D.Q.A.]

CHUST CULTURE

The Fergana Valley of eastern Uzbekistan was occupied at the end of the Bronze Age or early Iron Age (*c* 1500-900 BC) by the Chust culture. Settlements varied in size from small single dwelling sites to larger settlements over 10 ha in size. Some sites indicate defensive architecture and others occupy hilltop locations. The actual domestic structures are not well known but were sometimes built of mud-brick. Frequent in settlements are large pits that are believed to have served for



Chust Distribution of the Chust culture.

the storage of grain. Wheat, barley and especially millet have been recovered along with agricultural tools (sickles and hoes). Stone sickles and stone knives as well as painted pottery of the Chust culture have been related to developments further east in Xinjiang. Domestic animals included cattle, sheep/goat, horse, asses, camel and possibly pig. Wild animals included gazelle, onager and saiga antelope. Pottery was hand-made; both bronze (spearheads, knives) and some iron objects are attested. Burials are variable with interment on the edge of settlements in pits; hoards of skulls are known as well as human remains mixed with those of animals. The physical type has been identified as Europoid and has been variously interpreted as the remains of Iranian peoples moving towards the east or Iranian-speaking people retreating from the eastern steppe or Xinjiang who had been forced west. Either way, the presumption is that the Chust culture reflects the increasing sedentization of earlier mobile (?Iranian) pastoralists.

See also **Bishkent Culture**; **Indo-Iranian Languages**; **Vakhsh Culture**. [J.P.M.]

CIRCLE

serk- 'make a circle, complete; make restitution'. [*IEW* 912 (**serk-*); Wat 58 (**serk-*); GI 707–708 (**serk^h-*)]. Lat *sarciō* 'make restitution; make whole (i.e., repair, mend)', *sarcina* 'bundle', Alb *gjarkëz* 'peritoneum' (< *'that which surrounds'), Grk *ἕρκος* 'enclosure, hedge, (courtyard) wall; net; snare' (*ἕρκος ὀδόντων* 'set of teeth'), *ὀρκάνη* ~ *ἑρκάνη* 'enclosure, fence; trap, pitfall', Hit *sarnikzi* 'makes restitution', TochA *sark* 'circle, cycle', TochB *serke* 'circle, cycle; complete set' (*kemeṣṣe serke* 'set of teeth'). Though the underlying verb survives only in Latin and Hittite, and then in what was an originally metaphorical meaning, the distribution of derivatives assures its PIE antiquity.

$h_3$érbhis 'circle, orb'. [VW 597]. Lat *orbis* 'ring, circle, cycle; round surface, disk; world, earth, orb', TochAB *yerpe* 'disc, orb' (with Tocharian A borrowed from Tocharian B; TochB < lengthened grade **h_3ērbhos*). The pattern of distribution suggests at least late PIE date.

See also FENCE; WALL; WHEEL. [D.Q.A.]

CLADISTICS *see* SUBGROUPING

CLAN *see* FAMILY

CLAY

mḷdho/eh$_a$ 'clay'. [*IEW* 719 (**mel-dh-*); cf. Wat 40 (**mel-*)]. OE *molde* 'sand, dust, soil; land, country' (> NE *mould*), Goth *mulda* 'earth, clay', Grk *μάλθη* 'modelling mixture of wax and pitch', OInd *mr̥t-* ~ *mr̥d-* 'clay, loam'. The deaspiration in Old Indic is probably due to influences from the adjective *mr̥dú-* 'soft'; the verb *mardh-* 'be moist, sticky' preserves the expected aspiration. From **meldh-* 'soft, weak, flexible'. The agreement of Germanic and Indic would seem to assure PIE status for this word.

gloiu̯os 'clay'. [*IEW* 362–364 (**gloi-u̯o-*)]. OE *clǣg* 'clay' (> NE *clay*), Fris *klay* 'clay' (< Proto-Gmc **klaijaz*), Lith (pl.) *gleĩvės* 'slime', Latv *glievs* '?clay', Grk *γλοιός* 'clay'. Cf. also Lat *glūten-* (< **gloi-ten-*) 'glue'. At least a word of the west and center of the IE world.

?*isti- 'clay'. [VW 184–185]. Av *ištyam* 'brick', *zəmōištva-* 'clay-tile', OInd *íṣṭakā* 'brick', Khowar *uṣṭú* 'sun-dried brick, large clod of earth', TochB *iścem* (< **isti̯o-m-?*) 'clay'. It is possible that the Tocharian word was borrowed from Iranian but, if so, the borrowing was very early. If the Tocharian is an independent inheritance, then we have evidence here for a word of the IE east.

Ceramic technology exploits naturally occurring clays which need not vary greatly from other soils; thus, our inability to recover a marked distinction between '(potter's) clay' and other types of 'earth' occasions little surprise. The term suggesting the greatest precision is **mḷdho-*. Although the gloss at times is merely a generic 'earth, soil', the root connection is 'be weak, flexible' which possesses the inherent notion of modelling and thus suggests that 'clay' was indeed part of the original semantics. The term **gloiu̯o-*, which is geographically more confined, emphasizes gluey or slimy aspects of the substance which seems further removed from the concept of modelling clay. The Grk *κέραμος* 'potter's clay, pottery' is a local innovation, perhaps derived from the verb *κεράννῡμι* 'mix'. In the preparation of ceramics, the clay is frequently mixed with another substance, e.g., grit, crushed shell, vegetable matter, crushed sherds, in order to avoid shrinkage and consequent breakage during firing. The other primary use of clay would have been in the production of daub as an insulation for wattle and daub houses.

See also POT. [M.E.H., D.Q.A.]

CLEAN

$h_1$erh$_x$- 'wash'. [Puhvel 1:116]. Hit *arr(a)-* ~ *arriya-* 'wash', TochA *yär-* 'wash'. The agreement of Anatolian and Tocharian would seem good evidence for PIE status for this word.

k̂leu- 'clean'. [*IEW* 607 (**k̂leu-*); Wat 31 (**kleu-*)]. OLat *cloāca* 'gutter, sewer' (although the Latin grammarians cited a verbal form *cluō* 'clean' as the basis of this form, the verbal form is not elsewhere attested), OE *hlūt(t)or* 'pure', OHG *hlūt(t)ar* 'pure', Goth (acc. pl.) *hlūtrans* 'pure, clean', Lith *šlúoju* 'sweep', Grk *κλύζω* 'wash'. Although sometimes cited here, Wels *clir* 'clean, bright' is almost certainly an English loan. The distribution of cognates suggests that this word was at least known in the west and center of the IE world.

leuh$_3$- 'wash, bathe'. [*IEW* 692 (**lou-*); Wat 37 (**leu(ə)-*); GI 147 (**loH^o-*); Buck 9.36; BK 581 (**law-aħ-/*ləw-aħ-*)]. Lat *lavō* 'wash, bathe', Myc *re-wo-te-re-jo* 'for bathing', Grk *λούω* 'wash', Arm *loganam* 'bathe, wash myself'. Although these forms correspond semantically, there are some phonological problems. Both the Mycenaean and Armenian forms point to h_3; the nasal present exhibited in the Armenian word is purely an Armenian development.

m(e)uh$_x$- 'wash (in urine?)'. [*IEW* 741 (**meu-*)]. MIr *mūn* 'urine', OPrus *aumūsnan* 'wash', Lith *máudyti* 'bathe', Latv *maudât* 'bathe', *maût* 'submerge', OCS *myjǫ* 'wash', Rus *mytĭ* 'wash', Grk (Cypriot) *μυλάσασθαι* 'wash oneself', Av *mūθra-* 'dirt', OInd *mūtra-* 'urine'. Old Indic, Baltic and Slavic all point to **muh$_x$-*. The Greek form is rather unclear (*u/ū?*; *λ* for *δ*, not < *δλ?*). The semantics is also difficult and may suggest an underlying meaning 'wash' developing into some stocks as 'dirt' rather than 'wet'. Alternatively, the semantic development may possibly be related to the ritual practice of washing in cow's urine which is attested in India. It might be noted that human urine was also employed by the Romans as a mouthwash (the ammonia brightened teeth) and urine was a regular component of mouthwashes and toothpastes up to the eighteenth century.

neig^w- 'wash'. [*IEW* 761 (**neig^u-*); Wat 44 (**neig^w-*); Buck 9.36]. OIr *nigid* 'washes', ON *nykr* 'water spirit', OE *nicor* 'water spirit', NE *nix* ~ *nixie* 'water sprite', OHG *nihhus* 'water spirit', Grk *νίζω* 'wash', Av *naēnižaiti* 'washes', OInd *nénekti* 'washes'. Cf. also the derivative **nig^{w}tos* 'washed, clean': OIr *necht* 'clean, pure', Grk *ἄνιπτος* 'un-washed', OInd *niktá-* 'washed'. The Old Irish form points to a root in the shape

neig- rather than *neig^w-*, and thus may not belong with this cognate set. Aside from this uncertainty, the root is reasonably well attested for PIE.

peuh$_x$- 'clean (by straining or sieving)'. [*IEW* 827 (**peu-*); Wat 51 (**peuə-*)]. OHG *fowen* 'sieve, clean grain', OInd *paváyati* 'cleanses, purifies'. Cf. also the various derivatives **puh$_x$-to-s* 'cleaned': Lat *putus* (with short *-u-* perhaps influenced by *putāre* 'to prune, clean') 'clean', Av *pūtika-* 'serving as purification', OInd *pūtá-* 'clean'; **puh$_x$-ro-s* 'clean': MIr *ūr* 'new, fresh', Wels *ir* ~ *iraidd* 'fresh, green', Lat *pūrus* 'pure, spotless'. The distribution of the root **peuh$_x$-* and its derivatives suggests solid reconstruction to PIE. Attempts to connect this root with **puh$_x$r-* 'fire' (± 'the purifier') are highly speculative.

See also PURE. [M.N.; R.S.P.B.; D.Q.A.]

CLOSE (THE EYES)

meigh- ~ ***meik-*** 'close the eyes'. [*IEW* 712–713 (**meigh-*)]. From **meigh-*: Lith *(už-)mìgti* 'fall asleep', Latv *(žaiz-)migt* 'fall asleep', *miêgt* 'close the eyes', ORus *megnuti* 'blink', Rus *mžatĭ* ~ *mžitĭ* 'blink, close the eyes'; from **meik-*: Lat *micāre* 'move quickly, flash', OSorb *mikać* 'blink'; Toch B *mik-* 'close the eyes' is ambiguous as to **-k-* or **-gh-*. In one form or another widespread in IE.

See also EYE; SLEEP. [D.Q.A.]

CLOTH *see* TEXTILE

CLOTHE (ONESELF)

$h_1$eu- 'put on clothes'. [*IEW* 346 (**eu-*); Wat 17–18 (*eu-*); GI 610 (**eu-*); Buck 6.11; BK 394 (**ħaw-/*ħəw-*)]. Lat *induō* 'put on, get dressed in', *exuō* 'divest oneself (of)', Lith *aūti* 'put on shoes', *avėti* 'wear shoes, boots, stockings', Latv *àut* 'put on shoes, stockings', OCS *ob-ują* 'put on shoes', *iz-uti* 'take off shoes', Arm *aganim* 'dress'. Cf. also OIr *fūan* (< **upo-ou-no-*) 'outer garment, tunic', TochB *ewe* 'inner skin'. The geographical distribution of this lexeme suggests considerable antiquity in IE. A widespread nominal derivative is **$h_1$outleh$_a$-* in Lat *sub-ūcula* 'under tunic', Lith *aūklė* 'shoelace', Latv *àukla* 'cord', Av *aoθra-* 'footwear', though the wide variation in meaning suggests independent creations rather than a word of PIE date.

u̯es- 'be dressed; dress' (3rd sg. present [1] ***u̯és(t)o*** 'is dressed, wears', [2] ***u̯oséi̯eti*** 'dresses, clothes'). [*IEW* 1172–1173 (**u̯es-*); Wat 78 (**wes-*); GI 610 (**wes-*); Buck 6.11; BK 460 (**haw-/*həw-*)]. [1] Grk *ἕννυμι* 'get dressed', Arm *z-genum* 'get dressed' (Greek and Armenian < **u̯es-n(e)u-*), Hit *wess-* 'be dressed', Luv *wass(a)-* 'be dressed', Av *vaste* 'wear', OInd *váste* 'wear', TochAB *wäs-* 'be dressed' (cf. TochB infinitive *wastsi* 'clothes'); [2] ON *verja* 'dress', OE *werian* 'dress' (> NE *wear*), OHG *werian* 'dress', Goth *wasjan* 'dress', Alb *vesh* 'dress', Hit *wassezzi* 'dresses'. Cf. the denominative Lat *vestiō* 'dress'. There are a number of nominal derivatives meaning 'clothes': **u̯esmn-* in Grk (Lesbian) *(ϝ)ἔμμα* 'clothes', Av *vaŋhanəm* 'clothes', OInd *vásman-* 'covering'; **u̯estis* in Lat *vestis* 'clothes', Goth *wasti* 'garment, dress', Grk (Hesychius) *(ϝ)εστία* 'clothing', Arm *z-gest* 'garment, clothing'; or **u̯estr-* in MHG *wester* 'baptismal gown', Grk *(ϝ)έστρᾱ* 'clothes', Hit *westra* 'clothes', Av *vastra-* 'clothes'. Cf. also Myc *we-a$_2$-no* (= *wehanós*) 'kilt'. If **$h_1$eu-* was actually vowel-initial, i.e., **eu-*, then **u̯es-* may be an old extension of it, i.e., **u-es-*. In any case **u̯es-* is the most basic and general clothing word reconstructible for PIE, being attested in almost every stock and geographical area, including Anatolian and Tocharian. It is noteworthy that in Mycenaean Greek the derivative *wehanós*, literally '[that] which is worn', is the word for 'kilt', the clothing *par excellence*, at least for men, which was worn in Greece and Anatolia although it would be too much to project it back into greater antiquity for all the IE peoples given the wide variety of clothes that we encounter when we first recover their apparel, e.g., trousers among the steppe populations, long tunics in the Bronze Age of the Germanic world. It may be possible that **u̯es-* is further related to Greek *ἑστίᾱ* 'hearth' (cf. *Hestia*, the goddess of hearth and home). If so, it may be that its still earlier meaning was 'that which warms/protects'.

See also CLOTHING; COVER; TEXTILE; TEXTILE PREPARATION. [D.Q.A., E.J.W.B.]

CLOTHING

u̯ospo/eh$_a$- 'garment'. [*IEW* 1172 (**u̯es-*)]. Lat *vespa* ~ *vespula* ~ *vespillō* 'undertaker; one who steals clothes from the dead', Hit *was(sa)pa-* 'garment, shroud', Luv *waspant-* (< **u̯ospo-*) 'wearing funeral shrouds'. From **u̯es-* 'be dressed; dress'. The derivative formant **-po-* is productive in neither Italic nor Anatolian, so it is very likely that **u̯ospo-* is of PIE age.

bhr̥u- '(bolt of) cloth'. [*IEW* 137–138 (**bhr̥u-*); BK 7 (**bar-/*bər-*)]. Lith *bùrva* 'piece of cloth', Latv *burves* 'small sail', Myc *pa-we-a$_2$* (pl.) (= *parweha*) 'pieces of cloth', Grk *φᾶρος* '(bolt of) cloth' (i.e., the cloth directly as it comes from the loom, usable as is as a cloak, blanket, or woman's *peplos*). Cf. also Lith *bùrė* 'sail', Grk (Hesychius) *φάραι* 'to weave, to plait', *φορμός* 'mat; seaman's cloak of coarse plaited fabric'. Though attested in only two traditions, the exact semantic match is a strong argument that we have reflexes of a (late) word in the center of the IE world. Only in Grk *φάραι* is the underlying verb attested (PIE **bher-* 'weave, twine').

drap- ~ ***drop-*** '± clothes, cloak'. [*IEW* 211 (**drep-*); Buck 6.12]. Gallo-Roman *drappus* 'clothes', ON *trǫf* (pl.) 'fringe', Lith *drãpanos* (pl.) 'clothes', Latv *drãna* (< *drapna*) 'clothes', OInd *drāpí-* 'cloak'. Perhaps from **drep-* 'split (off)'. Perhaps also here Av *drafša-* 'flag', OInd *drapsá-* 'banner' but as likely is a connection with **dreb-* 'tremble'. This is one of the very few words for clothing that has an eastern IE cognate. Despite the uncertainty of the phonological shape of this word (perhaps to be accounted for by some post-PIE borrowing back and forth from one branch of IE to another), this looks to be a likely candidate for (late) PIE status.

baitéh$_2$- 'cloak'. [*IEW* 92–93 (**baitā* ~ **paitā*); GI 53].

OE *pād* 'coat', OHG *pfeit* 'garment', Goth *paida* 'tunic, shirt', Grk *βαίτη* 'shepherd's or peasant's coat of skins; tent of skins'. Alb *petk* 'clothes, garment' may belong here as well but, with its initial *p-*, it is probably ultimately a borrowing from some Germanic (Gothic?) source. This word is usually taken to be a borrowing by both Germanic and Greek from some non-IE source. It certainly may be, but there seems to be no reason it has to be, save that **b* was of very rare occurrence in PIE. Certainly a cloak of wool or animal skin must have been part of the Proto-Indo-Europeans' store of clothing.

****kéntr/n-*** '± patch, patched garment'. [*IEW* 567 (**kenth(o)-*); Wat 29 (**kentho-*)]. Lat *centō* 'patchwork clothes', OHG *hadara* (< **kotreh₂-*) 'patches', Grk *κέντρων* 'patched clothes', Arm *k'ot'anak* 'clothes'. Cf. also OInd *kanthā* 'rag, patched garment'. All but the Indic words would appear to be reflexes of a widespread and ancient *r/n*-stem. The lack of an *-n-* in the first syllable of the Germanic and Armenian words is plausibly explained by the dissimilatory loss in forms like **kentn-*. The Old Indic word would be an independent derivative of **kent-*. It is perhaps worthy of note that Ötzi, the 'Iceman of Tyrol' (of *c* 3300 BC), had as his principal garment a cloak neatly composed of deer, ibex, and chamois skins patched together. Perhaps related to Grk *κεντέω* 'prick' (in the meaning *'stitch'?), though the latter would appear to have been descended from a PIE **k̂ent-* (cf. Latv *sīts* 'hunting spear').

****lōp-*** '± strip of cloth, bast or hide used for clothing'. [*IEW* 678 (**lep-*); Wat 36 (**lep-*)]. OE *lōf* 'headband', Lith *lõpas* 'patch', *lópyti* 'mend, repair', Latv *lāps* 'patch', *lāpīt* 'mend, repair' (the Baltic words appear to reflect an earlier **lāp-* rather than **lōp-*), Rus *lápotĭ* 'bast-shoe', *lápitĭ* 'mend, repair', *lapotók* 'rags', Grk *λῶπος* ~ *λώπη* 'clothes made from skins', (Hesychius) *λώψ* 'short cloak (worn by horsemen)'. From **lep-* 'strip (off)'. At least a word of the west and center of the IE world.

****ruk-*?** 'over-garment'. [*IEW* 874 (**ruk(k)-*); Wat 55 (**ruk-*)]. OIr *rucht* (< **ruktu-*) 'tunic', MWels *ruch(en)* (< **roukkā*) 'cloak', OE *rocc* 'over-garment, rochet', OHG *rocko* 'distaff', Goth **rukka* (borrowed into Italian *rocca* 'distaff') (< Gmc **rukkōn*). An isogloss of the western periphery of the IE world.

See also Cover; Headband; Shoe; Textile; Textile Preparation. [D.Q.A.]

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CLOUD

****nébhes-*** ~ ****nebh-el-*** 'mist, cloud; sky. [*IEW* 315 (**nebhos-*); Wat 44 (**nebh-*); GI 575–576 (**neb^h-*); Buck 1.73]. OIr *nem* (*s*-stem) 'heaven', Wels *nef* (Celtic with problematic *-m-*) 'heaven', Lat *nebula* 'mist, fog', ON *niflheimr* 'darkness', *njōl* 'mist, night', OE *nifol* 'dark', OHG *nebul* 'mist', Lith *debesìs* (with secondary *d*) 'cloud', Latv *debess* 'sky, cloud', OCS *nebo* ~ *nebes-* 'sky', Rus *nébo* 'sky' (borrowed from OCS), *nëbo* 'roof of mouth', Grk *νέφος, νεφέλη* 'cloud', Hit *nēpis* 'sky', Av *nabah-* 'sky', OInd *nábhas-* 'mist, cloud; sky; air, space'. The PIE word for 'mist' or 'cloud' with secondary development of 'heaven' in a number of stocks.

****sneudh-*** ~ ****snoudh-*** 'mist, cloud'. [*IEW* 978 (**sneudh-*); Wat 62 (**sneudh-*)]. Wels *nudd* 'mist', Lat *nūbēs* 'cloud, mist', Av *snaoδa-* 'cloud', Baluchi *nōd* 'cloud'. All forms may have either *-eu-* or *-ou-*. Lat *nūbēs* is also explained differently. Thinly but widely attested enough to insure PIE status.

****h₃meigh-*** ~ ****h₃mighleh₂-*** 'drizzle, mist'. [*IEW* 712 (**meigh-*); Wat 40 (**meigh-*); Buck 1.74]. OIr *nēl* (if from **miglo-* with *n-* from **nebhos*) 'cloud', ON *mistr* (< **miχstaz*) 'dark weather', OE *mist* 'mist' (> NE *mist*), NDutch *mist* 'mist', *miggelen* 'drizzle', Lith *miglà* 'mist', Latv *migla* 'mist', OCS *mĭgla* 'mist', Rus *mgla* 'mist, darkness', *mžitĭ* 'drizzle', Grk *ὀμίχλη* 'cloud', Av *maēγa-* 'cloud', OInd *meghá-* 'cloud', *mih-* 'mist'. Arm *mēg* 'mist' is an Iranian loan. It is doubtful whether this root derives from **meigh-* 'flicker' while **h₃meiĝh-* 'to urinate' is semantically very close to 'drizzle' and as both had **h₃-* (cf. Grk *ὀμείχω* 'urinate' and *ὀμίχλη* 'cloud'), the roots will be the same except for the palatalized velar. Distribution indicates PIE status.

The fact that **nébhos* filled out the semantic fields of both 'cloud' and 'sky' led to an inconsequential attempt by both F. Specht and W. Brandenstein to reconstruct the weather conditions of the IE homeland. It was believed that the earliest Indo-Europeans had uniformly designated the heavens with **di̯ēus* 'bright sky' which suggested fair weather conditions in the homeland. The movement into the cloudy regions of the Balts and Slavs, for example, had prompted them to abandon their etymologically transparent word for 'sky' and expand the meaning 'cloud' to include 'the heavens, the sky' as a more appropriate term for their cloudy new homes. Specht incongruously argued for a homeland in northern Europe while Brandenstein proposed that the clear sky of the Eurasiatic steppe was the original referent. He also observed that the entire argument was likely to be specious since the secondary meaning 'heaven' for **nébhos* was by no means confined to Baltic and Slavic. More recently, Gamkrelidze and Ivanov have suggested that the association of 'cloud' and 'sky' indicates that the Proto-Indo-Europeans lived in a mountainous environment where the 'sky' might well lie in the clouds. Such a hypothesis is obviously no more creditable than the others.

See also God; Rain. [R.S.P.B.]

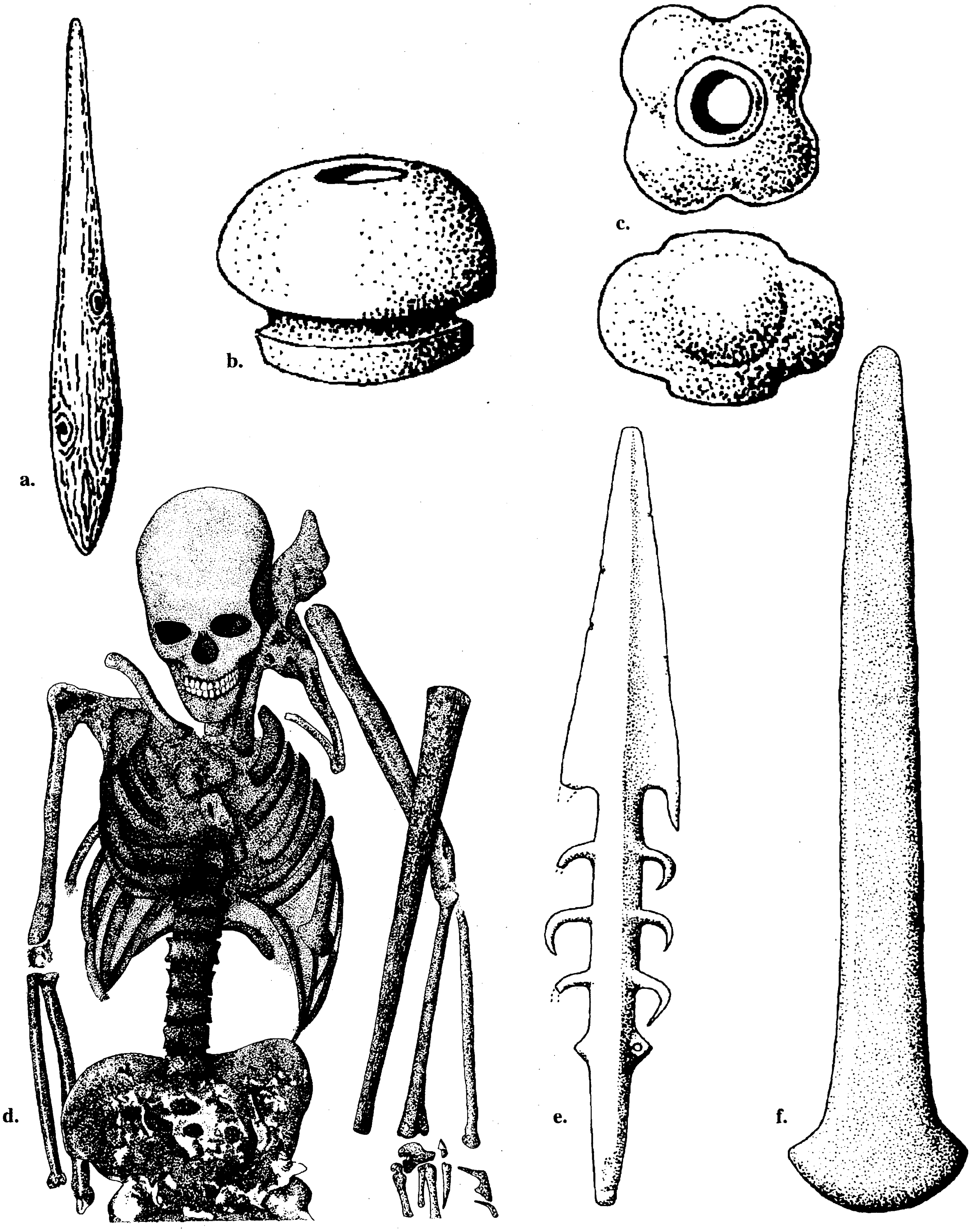
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CLUB

****bak-*** 'club'. [*IEW* 93 (**bak-*); Wat 4 (**bak-*)]. OIr *bacc* 'staff (if not from Latin)', Wels *bach* 'corner', Lat *baculum*



Club a. Wooden club (British Neolithic); b. Stone mace-head (Dnieper-Donets culture, Ukraine); c. Stone mace-head (Mariupol cemetery, Ukraine); d. Early Bronze Age burial with copper club (Kutuluk I, Volga region); e. Copper harpoon (Copper Hoard culture, India); f. Copper bar celt (Copper Hoard culture, India). Note that both the harpoon and bar celt (as well as other weapons) have been identified by various authors with the *vajra-* of the Indic god Indra.

'staff', MDutch *pegge* 'pin, peg' (borrowed > NE *peg*), Grk **βάκτρον** 'staff'. By its phonology (possessing both **b* and **a*) probably a popular word of the west and center of the IE world.

?*u̯edhego/eh$_a$- 'club'. [*IEW* 1115 (**u̯edh-*); cf. Wat 73 (**wedh-*); BK 478 (**wad-/*wəd-*)]. OPrus *wedigo* 'ax', Lith *vedegà* 'ax', Latv *vẹdga* 'ice-pick', Av *vaδayan-* (name of a demon, the 'striker'?). From **u̯edh-* 'push, strike'. Only if the Avestan word is related is there any evidence that this is a PIE word rather than a specifically Baltic one. Since the original meaning of the Avestan word is only an etymological guess, the PIE status is dubious. Certainly this verbal root shows a good many other derivatives with precisely the meaning 'club': OIr *fodb* 'ax', Av *vadar-* 'weapon', OInd *vadhá-* 'weapon', TochB *yatwe* 'whip', but they are all independent formations.

?*u̯áĝros 'cudgel'. [cf. *IEW* 1117–1118]. Grk **Μελέαγρος** 'Meleāger' (< **mele-wagros* 'caring for cudgel'), Av *vazra-* 'mace, cudgel' (whence Finnish *vasara* 'hammer'), OInd *vájra-* 'thunderbolt; cudgel' (whence TochAB *wāśir* 'thunderbolt'). A word of the southeast of the IE world. If the Germanic name *Odoacer* (< Gothic), OE *Eadwacer* (< Proto-Gmc **Auda-wakraz*) meant '± rich in weapons', then we would have evidence for an originally wider IE distribution. From **u̯aĝ-* 'split, strike, bite'.

?*lorgeh$_a$- 'club'. [*IEW* 691–692 (**lorgā- ~ *lorgi-*)]. OIr *lorg* 'club, pestle', MWels *llory* 'club', ON *lurkr* 'cudgel, club'. Possibly a word of the far west of the IE world. The possibility of borrowing between Celtic and Old Norse cannot be excluded.

In the mythologies of the IE peoples, the god of war or a similar deity charged with aggressive behavior, e.g., storm god, wields a club, mace, ax or hammer. In Old Indic tradition the weapon is the *vájra-* which is primarily employed by Indra. In Vedic contexts this *vájra-* is wielded either by throwing or striking and a part of it, at least, is made of copper as the instrument is described as 'red-brown', the color designation for copper. The texts also reveal that the *vájra-* is likened to an arrow in that it possesses a point with four to eight edges, barbs and a shaft. The shaft or handle was thinner than the head. According to Wilhelm Rau, the instrument as described in Old Indic literature finds by far its best parallel in the "harpoons" of the Copper Hoard culture. On the other hand, Harry Falk has more recently suggested that only the so-called "bar celts" from the same culture provide a solid candidate for the *vájra-*.

Clubs existed probably long before the emergence of anatomically modern humans in Eurasia between 100,000 and 40,000 years ago. There is evidence for stone clubs in the Mesolithic over broad areas of Europe where their purpose has been variously described as serving for bludgeoning large fish, seals, or pounding in stakes for fish weirs. In the Neolithic and early Bronze Age one encounters more frequently some evidence for a macehead, either attached by a perforation or simply shaped and lashed to a wooden handle. These are found from the Atlantic to the Urals and are generally interpreted as symbols of power and authority; they are found generally in mortuary contexts with presumably important individuals. From the early Bronze Age Poltavka culture in the Volga region comes a burial accompanied uniquely by a large copper club. It seems likely that some form of club or mace-head would have been known to the earliest IE speakers.

See also **Ax**; **Copper Hoard Culture**; **Tool**. [D.Q.A., J.P.M.]

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COAL *see* CHARCOAL

COCK

There are no cognate sets between the various stocks for the rooster, and the individual terms tend to be ultimately onomatopoeic, stemming from roots with meanings such as 'call', 'sing', or, in the case of Greek, 'ward off'. Thus we have OIr *cailech* and Wels *ceiliog* [< **kel-* 'call'; *IEW* 548–550 (**kel-*)] 'cock', Lat *gallus* (< **gal-* 'call') 'cock', Goth *hana* (< **kan-* 'sing') 'rooster' (but ON *hœna* 'hen', OE *henn* 'hen' [> NE *hen*], OHG *huon* 'chicken'), OPers *kahrkatāt* (< **ker-* 'call of bird') 'cock', and the obviously onomatopoeic OInd *kukkuṭá-* (< **ko ko*) 'cock'. Grk **ἀλεκτρυών** 'cock' derives from **h$_a$elek-* 'ward off', cf. the *Avesta* where the crowing of the cock drives away demons. The Lith *gaidỹs* 'cock' and OCS *kurŭ* 'cock' are without etymology.

See also **Birds**; **Hen**. [J.A.C.G.]

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COLD

***k̑elto-** 'cold'. [*IEW* 551 (**k̑el-*); Wat 28 (**kelə-*)]. Wels *clyd* 'sheltered, warm, dry, snug', Lat *calidus* 'warm, hot', Lith *šáltas* 'cold', Latv *sal̂ts* 'cold, naked', Av *sarəta-* 'cold'; perhaps the reduplicated forms ON *hēla* (< **hehlōn*) 'frost', OInd *śíśira-* 'the cool season' and less likely OCS *slana* 'hoar frost'. As Celtic and Latin indicate, the root **k̑el-/*k̑ol-* is also connected with words meaning 'warm, hot', cf. also Lat *caleō* 'to be hot', suggesting that the root semantics may have concerned intensity rather than specifically temperature. While several connections may be questionable, the geographical spread still supports a PIE form.

***k^{w}rustén** '(freezing) cold'. [*IEW* 621–622 (**kreus- ~ *krus-*); GI 589; VW 236]. Grk **κρυσταίνομαι** 'am congealed with cold, freeze' (cf. also **κρυστάλλος** 'ice; numbness; crystal', **κρῡμός** 'icy cold, frost' (< **krusmó-*), **κρύος** 'icy cold, frost' (< **krūses-*; all the Greek forms show a delabialization of original **k^w-* to *k-* in the neighborhood of *-u-*), TochA

k$_u$*raś* (acc. sg. *krośśāṃ*) 'cold', TochB *krośce* 'cold'. Other derivatives are to be seen in Lat *crusta* 'crust', OHG *hroso* 'ice, crust', Latv *kruvesis* 'frozen mud'. The distribution suggests that this word was widespread and old in IE.

h₃eug- 'cold'. [*IEW* 783 (**oug-*)]. OIr *ūacht* (noun) 'cold', Wels *oer* 'cold', Lith *áušti* 'to become cold', Latv *aũksts* 'cold', Arm *oyc* 'cold'. Although best attested in the northwest, the Armenian cognate does support deeper IE status.

gel- 'cold, to freeze'. [*IEW* 365–366 (**ĝel(ə)-*); Wat 19 (**gel-*); Buck 15.86; BK 287 (**k'ul^y-/*k'ol^y-*)]. Lat *gelū* 'cold, frost', ON *kala* 'to get cold', OE *calan* 'to get cold', *ceald* 'cold' (> NE *cold*), OHG *kalt* 'cold', Goth *kalds* 'cold' (< Proto-Gmc **kaldaz*). The earlier suggested Grk (Gallo-Roman) *γελανδρόν* 'cold' is now widely discredited, restricting this item to northwest IE.

srīges- 'cold, frost'. [*IEW* 1004 (**srīg-*); Wat 64 (**srīg-*); GI 589 (**srīk'-*)]. Lat *frīgus* 'cold, frost', Grk *ῥῖγος* 'frost, cold'. Geographical spread only supports late, perhaps dialectical status.

?*h₂elgh- 'be cold'. [*IEW* 32 (**algh-*)]. Lat *algor* 'frost', *algēre* 'be cold', ON (gen. sg.) *elgjar* 'snow', NIce *elgur* 'snow-drift'. Doubtful cognates and even if the words share the same root this is relevant only if it reflected a substantive 'cold, ice'; Lat *algor* is better derived from *algēre*.

A wide variety of direct semantic oppositions among homophones occur in IE, often in the religious vocabulary, but extending well beyond it. This pattern has been taken by Michael York to represent a "possible IE tendency toward polarized perception", including a "basic positive-negative duality".

[J.C.S., R.S.P.B]

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COLOR

No Indo-European term for the noun 'color' is reconstructible, but this fact does not mean that the Indo-Europeans failed to recognize different colors. Among many peoples, e.g., the Navajo, a complex set of specific color terms may coexist with the absence of an abstract general term for color. Within individual languages, terms for color often derive from terms for the 'surface', e.g., Lat *color* (akin to *cēlāre* 'cover, conceal, cf. OInd *várṇa-* 'color' from a root *var-* 'cover') or Grk *χρῶμα* (akin to *χρόᾱ* 'pelt, hide') or are derived from a specialization of individual color terms, e.g., Celtic **līwo-* (OIr *lī* 'beauty, appearance, glory, color', Welsh *lliw* 'form, countenance, color') akin to Lat *līvor* 'dark blue' or OE *hīw* 'appearance, form, color' which is related to Lith *šývas* 'gray'. The most interesting of these terms appear to relate to markings rather than color *per se*. A root **perḱ-* is applied to a variety of variegated beings, e.g., Lat *porcus* 'perch or piglet', OIr *erc* 'perch, salmon'. It is further seen in Grk *περκνός* which designates 'freckled' or 'red' as does its Indic cognate *pṛśni-*, while a Greek term, *πρακνόν* is glossed as 'black'. However, the most interesting derivative of **perḱ-*, **porḱ-u̯ós*, occurs in Germanic, Proto-Gmc **far(g)wa-*, the antecedent of NHG *farbe* 'color'. This root is normally translated as 'speckled', but 'striped' or 'stippled' may be more accurate in light of the lineated speckles on the fish and animals named. Other color words derive from 'spotted', PIE **poiḱ-*. As a verb OInd *piṃśati*, TochAB *pik-* and Rus *pisátĭ* mean 'paint' and later 'write'. The zero-grade **piḱo-* appears in OCS as *pĭsŭ* 'dog', Rus *pës* 'dog', i.e., 'spot' but the o-grade, **poiḱo-* gives Av *paēsa-*, OInd *péśa-* 'form, color' and OE *fāh* 'color' but also *fǣge* 'fated, doomed to die', perhaps from < **poiḱi̯o-* 'marked'. Finally Grk *ῥέζω* and OInd *rájyati* both reflect PIE **(s)reg-* 'dye'. The same root occurs with lengthening via Winter's Law in Lith *srúoga* 'skein' < **(s)rōgeh₂-*.

The Proto-Indo-European Color System

Color-terms refer to a complex of optical properties: *hue* (the discrimination of frequency in light waves), *saturation* (the amount of admixture among different hues) and *intensity*. Non-scientific systems of nomenclature often do not distinguish these properties and result in complex overlapping terms. In Berlin and Kay's famous study, *Basic Color Terms*, a hierarchy of seven color systems employing up to eleven primary terms was proposed. The primary colors, here marked in small capitals, are: WHITE, BLACK, RED, GREEN, YELLOW, BLUE, BROWN, PURPLE, PINK, ORANGE, and GRAY. The term primary as used here should not be confused with primary spectral colors (red, blue and yellow) which refer to the physical nature of color blending. A primary term is monolexemic; its meaning is not deducible by analyzing the meaning of its parts, e.g., 'lemon-colored' or 'reddish' are not primary color terms. It is also primary because it cannot be subsumed under another color category, e.g., orange is a primary term because speakers of English regard it as a color between yellow and red, while crimson is regarded as 'a kind of red', that is it can be defined as a variety of a more inclusive term. Secondary color terms, those employed only for restricted objects, e.g., *roan* or *bay* (for animals) or *brunette* (for hair), and those defined in terms of other colors, e.g., *scarlet* (= a kind of red) or those derived from natural objects as a sub-shade, e.g., *turquoise* (a kind of blue) are all excluded as primary. However, colors have been known to shift classes, thus 'orange' was originally a shade of yellow derived from the fruit, but is now widely regarded as a distinct color. In the absence of native intuition, it is often unclear whether a given term is a primary one or not. Consider Lat *cānus* 'white' or 'gray' and OE *hasu* 'gray', both reconstructible to PIE **ḱas-*, but OHG *haso*, OInd *śaśá-* 'hare' may indicate that this term originally referred to an animal, not a primary color. However, it is also possible that the word for 'hare' was 'the gray one', and thus the color meaning was primary.

In their original study, Berlin and Kay tested speakers of twenty different languages (drawn from different language

families) with Munsell Color charts which display 320 color chips. The speakers were asked to identify the focus of each of their primary color terms. They revealed recurrent patterns that suggested certain universals of color categorization. To this sample of contemporary languages was then added historical evidence taking the number of languages considered to ninety-eight in which it was revealed that there were seven 'stages' of color systems and that each subsequent stage required the incorporation of the distinctions made in the previous stage. Berlin and Kay outlined their seven stages as follows.

Stage I	BLACK, WHITE (two terms)
Stage II	BLACK, WHITE, RED (three terms)
Stage IIIa	BLACK, WHITE, RED, GREEN (extending into the blues) (four terms)
Stage IIIb	BLACK, WHITE, RED, YELLOW (four terms)
Stage IV	BLACK, WHITE, RED, GREEN, YELLOW (five terms)
Stage V	BLACK, WHITE, RED, GREEN, YELLOW, BLUE (six terms)
Stage VI	BLACK, WHITE, RED, GREEN, YELLOW, BLUE, BROWN (seven terms)
Stage VII	BLACK, WHITE, RED, GREEN, YELLOW, BLUE, BROWN, PURPLE, PINK, ORANGE, GRAY (eight to eleven terms)

It was later realized that this system contained a number of inaccuracies and could be greatly improved by taking into consideration both the physical properties of light perception in humans and a more precise and consistent definition of the various color categories (e.g., the distinction between BLACK and WHITE in Stage I was not the same as in Stage II). Lexicalization of color terms appeared to be dependent on three factors. Six primary colors received a basic response as color categories, i.e. black, white, red, yellow, green and blue. To this had to be added a series involving the "fuzzy union" of different primaries, e.g., black or green or blue yielded a "dark-cool" perceptual and linguistic response while a union of green and blue (named here GRUE) provided a "cool" response, red or yellow produced a "warm response" and white or red or yellow yielded a "light-warm" response. Finally, there were five semantic categories that were based on "fuzzy intersections" of colors, i.e. black + yellow = brown, red + blue = purple, red + white = pink, red + yellow = orange and white + black = gray. The evolutionary sequence originally defined was reinterpreted as a "successive differentiation of previously existing color categories", e.g., composite categories (such as GRUE) between Stages II and V were decomposed into their constituent primaries (green and blue).

The definition of the stages has remained similar to the original study but is now generally elaborated as follows.

Stage I	WHITE and BLACK
Stage II	WHITE, ROW [red and yellow], BLACK
Stage III	WHITE, RED, YELLOW, BLACK *or* WHITE, ROW, GRUE, BLACK
Stage IV	WHITE, RED, YELLOW, GRUE, BLACK
Stage V	WHITE, RED, YELLOW, GREEN, BLUE, BLACK
Stage VI	WHITE, RED, YELLOW, GREEN, BLUE, BLACK, BROWN
Stage VII	WHITE, RED, YELLOW, GREEN, BLUE, BLACK, BROWN, PINK, PURPLE, ORANGE, GRAY

Berlin and Kay's categories were evolutionary in the sense that each higher stage comprehended an earlier stage. They found some social correlation in that languages of cultures of small groups of hunter-gatherers tended to fall into the first three stages while modern industrialized (including European) languages employed Stage VII systems. They argued a Stage III system for Homeric Greek (more recent analysis suggests a Stage II) and a Stage IV system for Old and Middle Irish. Russian and (New World) Spanish, two of the languages examined, indicated a Stage VII.

It would be incorrect, however, to equate directly the number of terms with the level of civilization. Classical Latin, for example, had no primary term for BROWN which was supplied in the Romance languages from (Barbarian) Germanic. Moreover, some languages do not fit easily into their schema. The presence of two separate term for 'blue' in Russian (*sínij* 'dark blue', *golubój* 'light blue') has often been pointed out.

A more significant problem concerning the classification of the PIE system is the presence in Indo-European of various 'grayish' terms which should imply a Stage VII development, although other Stage VII terms, e.g., PURPLE, PINK and ORANGE are missing. Lerner suggested that Old English and Homeric Greek employed bipartite systems in which hue and intensity existed side by side. Such a theory would account for the troublesome Russian (and Hungarian) data in which blues and reds of different intensity are distinguished. Lerner's evidence suggests that earlier systems were far more consistent in this distinction, and we propose that the various 'grays' of PIE may have been the non-intense counterparts of a less developed system.

The lexical evidence for IE color terms suggests that we can reconstruct with confidence a Stage III system and possibly a Stage IV system which distinguished the following five colors:

BLACK	*mel-n- (~ *k̂eir-)
WHITE	*h$_2$r̥ĝ- (~ *h$_4$elbhós, *bholh$_1$os, *ku̯eitos)
RED	*h$_1$reudh- (~ *h$_1$elu-)
YELLOW	*ĝhel-
GREEN	*k̂i̯eh$_1$-

As the best reconstructed color term in PIE is 'red', a Stage II system is assured. That we have at least one word for 'yellow' or 'green' is also fairly certain. Reconstructing both primary GREEN and YELLOW is more problematic and the existence of a GROW (green + yellow) has been observed for other language groups. It has also been argued that the system employed by Homeric Greek was only Stage II (transition to Stage III) and to assign a "higher" stage to PIE is unlikely since, in general,

Some Basic Indo-European Color Systems

Color	Greek	Old Irish	Russian	Spanish
WHITE	λευκός	*bān*	*bélyj*	*blanco*
BLACK	μελάς	*dub*	*čërnyj*	*negro*
RED	ἐρυθρός [ROW]	*derg*	*krásnyj*	*rojo*
YELLOW	χλωρός	*buide*	*žëltyj*	*amarillo*
GREEN		*glas* [GRUE]	*zelënyj*	*verde*
BLUE			*sínij*	*azul*
BROWN			*koríčnevyj*	*café*
PURPLE			*purpúrovyj*	*morado*
PINK			*rózovyj*	*roso*
ORANGE			*kirpíčnyj*	*anaranjado*
GRAY			*séryj*	*gris*

color systems do not descend to a lower stage over time. On the other hand, it might also be argued that the semantic "mixing" where PIE **ĝhel-* 'yellow' also provided a base for words meaning 'green' was an artifact of time, the original meaning be primary YELLOW and that new formations indicating green did not come into existence until after GRUE had separated into GREEN and BLUE. Moreover, there is a case to be made for regarding **kieh₁-* as filling out the semantic slot for GREEN in which case all five terms for a Stage IV system might be proposed.

Words for color-terms found in other stages are not solidly reconstructible as primary color terms in PIE. For example, terms that might yield a meaning 'blue' tend to relate to specific objects, e.g., **slihₓu-* 'plum colored', and are geographically restricted; similarly, the word for 'brown' (**bher-*) is difficult to reconstruct as a primary color as so many of its referents in various stocks are either to animal names or at least the specific colors of an animal. Of modern languages, Stage IV systems include Japanese, Korean, Cantonese and Mayan.

See also **Black**; **Brown**; **Dark**; **Gold**; **Gray**; **Green**; **Honey**; **Light**[1]; **Paint**; **Red**; **Speckled**; **Textile Preparation**; **White**; **Yellow**. [M.E.H., J.P.M.]

Further Readings

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COME

****gʷem-*** 'come' (pres. ****gʷm̥sk̂e/o-*** ~ ****gʷm̥i̯e/o-***). [*IEW* 464 (**gᵘem-*); Wat 24 (**gʷem-*); GI 75; Buck 10.47]. Lat *veniō* 'come', ON *koma* 'come', OE *cuman* 'come' (> NE *come*), OHG *queman* ~ *koman* 'come', Goth *qiman* 'come', OPrus *gemton* 'bear', Lith *gimù* 'come into the world, be born', Latv *dzimt* 'come into the world, be born', Grk βαίνω ~ βάσκω 'come', Av *jamaiti* ~ *jasaiti* 'goes', OInd *gácchati* 'goes', TochA *kumnäs-* 'come', TochB *känmask-* 'come'. Cf. **gʷm̥ti-* 'motion': Lat *con-ventiō* 'coming together', ON *samkund* 'meeting', OHG *kumft* ~ *chumft* 'motion', Goth *gaqumþs* 'meeting', Grk βάσις 'step', Av *gati-* 'motion', OInd *gáti-* 'motion'. Widespread and old in IE. The basic intransitive verb of motion toward the speaker.

****gʷeha-*** 'come' (pres. ****(gʷi)gʷehati***). [*IEW* 463 (**gᵘā-*); Wat 24 (**gʷā-*); Buck 10.47]. OIr *baíd* (< **bā-a-ti*) 'dies', Lith (dial.) *góju* 'go', Latv *gāju* 'go', Grk (Laconian) βιβάντι 'they stride', Arm *kam* 'stand', OInd *jígāti* 'goes'. Ancient variant of the preceding (like **drem-* and **dreha-* 'run'). Cf. also **gʷehamen-*: Grk βῆμα 'step', OInd *gāman-* 'step'.

See also **Attain**; **Go**. [D.Q.A.]

COMPANION

****sókʷ-h₂-ōi*** (gen. ****sekʷ-h₂-i̯ós***) 'follower, companion'. [*IEW* 896–897 (**sokᵘi̯os*); Wat 57 (**sokʷ-yo-*); Buck 19.51, 19.53]. Lat *socius* 'partner, companion', ON *seggr* 'follower', OE *secg* 'follower', Grk ἀοσσέω 'help', Av *haxā-* 'friend, companion', OInd *sákhā-* 'friend, companion'. The Germanic forms (Proto-Gmc **sagwja-* < a thematic **sokʷh₂i̯ós* as in Latin) apply in particular to those who follow the leader in combat, i.e., warriors, and this must be close to its original meaning, given its derivation from **sekʷ-* 'follow'. The distribution indicates PIE status.

****dhroughós*** 'companion, comrade'. [*IEW* 254–255 (**dhereugh-*); GI 658 (**dʰreugʰ-*)]. OE *ge-drēag* 'troop', Lith *draũgas* 'friend', OCS *drugŭ* 'friend, companion' (also *družina* 'companions in arms'). The underlying verb exists in ON *drýgja* 'carry out', OE *drēogan* 'lead a (certain) life, do, work, take part in, perform' (> NE *dree*, ?*drudge*), Goth *driugan*

'wage, carry on (a military campaign)'. A derivative **dhrughti-* is seen in ON *drōtt* 'troop', OSax *druht-folc* 'army', MHG *truht* 'troop', Goth *ga-draúhts* 'soldier', and a further **dhrughti-no-* in ON *drōttinn* 'lord', OE *dryhten* 'chief, lord', OHG *truhtīn* 'chief, lord' (< *'troop-leader'). A word of the northwest of the IE world whose origins appear to lie in the vocabulary of the military band. The military emphasis is particularly striking in Germanic where it has given rise to the usual word for 'lord'. It is sometimes thought that this word is ultimately the same as **dhreugh-* 'deceive' but the semantic distance is very great and they should probably be kept apart.

h_xēpis '± confederate'. [*IEW* 325 (**ēpi-*)]. Grk *ἤπιος* 'gentle, kind, soothing, friendly', OInd *āpí-* 'ally, friend, acquaintance', *āpitvám* 'friendship, confederation', *ā́pyam* 'confederation, alliance, friendship'. This word has been taken as a nominalization of **$h_1$epi* 'upon, near' (cf. Grk *ἐπί*, OInd *api*), thus 'one nearby, neighbor' or, much more likely given the meaning we find in Old Indic, from **$h_2$ep-* 'fasten, join' seen in Hit *happ-* 'join, attach', Lat **apere* 'attach, tie to', *cōpula* (< **co-apula*) 'bond'. In the latter case the (late) PIE form would be **h_2ēpís* and would provide further evidence that laryngeals did not color adjacent long vowels. In any case an isogloss in Greek and Indo-Aryan.

h_aeĝmen- 'troop'. [*IEW* 5 (**aĝmn̥*); Wat 1 (**ag-men-*)]. Lat *agmen* 'troop, train', OInd *ájman-* 'train'. A banal formation from **h_aéĝ-* 'drive'.

See also ARMY; FOLLOW; WARFARE; WAR GOD; WARRIORS. [E.C.P.]

COMPARATIVE MYTHOLOGY

As with the reconstruction of Proto-Indo-European linguistic forms, there is no direct evidence of the mythic constructs of the PIE community. Only the specific mythic statements of the different IE-speaking stocks are available, presuming that such myth has in fact survived in each tradition, which often is not the case. The "approaches to myth" taken within the community of Indo-Europeanists have evolved over a century and half of research. In the mid-nineteenth century, the major approach to comparative mythology was underpinned by the assumption that the key to interpreting myth lay with natural phenomena, especially the sun, thunder and lightning. By the early twentieth century the interpretive emphasis had shifted to what would later be termed the ritualist school where myths were seen as expressions of ritual beliefs primarily concerned with the manipulation of the universe, particularly as it concerned the rejuvenation of the world. Although a number of other schools developed that emphasized the psychological foundations of myth, e.g., Freud and Jung, these were largely ignored by researchers in Indo-European comparative myth. Rather, the cornerstone of the predominant approach to the mythology of the Indo-Europeans today has grown out of the functionalist school that concerned itself with how mythology served as a charter of societal behavior. This was developed most fully by Georges Dumézil, who is credited with founding the "new comparative mythology". This approach may be generally characterized as catholic or inclusive, rational-sociological, meso-structural, and transdisciplinary. That is, in its investigation of mythology it is prepared to accept data, themes, and resemblances taken not only from myth in the strict sense, but also from epic and even from quasi-historical sources and so accepts a rather broad definition of what "myth" is, and where remnants or reflections of myth may be located. Under the functionalist assumption that myths do provide a social charter, the investigation of IE myths is then aimed at describing or recreating an IE society or social structure, at least as an ideological *model* if not as a provable, historical reality or proto-reality. The meso-structural label detaches this approach to myth from such grander macro-structural attempts as those erected in the last century by the naturist school and in this century by the structuralists: the investigative focus on a single linguistic family, however widely dispersed and various the cultures within this family, reduces the focal ambition somewhat. Finally, this approach to mythology is conducted along transdisciplinary lines, bringing into play techniques derived from philology and linguistics, comparative religion, sociology and anthropology (including hints taken from structural anthropology), literary myth-analysis and other disciplinary varieties and tendencies; it is accepted that sometimes the use of one approach may contradict the rules or findings of another.

The Naturist School

The primary school of comparative mythology of the mid nineteenth century argued that the underlying content of IE mythology was an allegory of natural phenomena, particularly that associated with the sun but also including the other elements. The leading exponent of this approach, Friedrich Max Müller (1823–1900), led the school of "solar mythology" which sought to interpret IE myth, both linguistically and structurally, in terms of oppositions in nature. Müller argued that the early Indo-Europeans were incapable of abstraction and hence the observable events most central to them, those relating to natural phenomena, were described through mythic circumlocutions, e.g., the Dawn disappears in the fiery embrace of the Sun = the passing from dawn to day. After the dispersion of the Indo-Europeans and the rise of the individual language stocks, the myths were forgotten and new ones created to remedy the "disease of language" which had disassociated the original mythic metaphors. The purpose of comparative mythology was to examine both the etymological basis of the names of deities and compare the structural elements of various myths to recover the original PIE myths which were invariably connected with natural phenomena. Hence, the career of a mythic hero, for example, with his rise and ultimate demise, might be regarded as a mythic metaphor for the course of the sun through the passage of the day while combats between a hero and a monster were metaphors for the battle between night and day.

The naturist or solar school of mythology was ultimately

defeated by its own excesses (one critic reduced Müller's own life to a solar metaphor) and has been generally abandoned as the primary interpretive key to IE mythology. On the other hand, that some IE mythology must relate to natural phenomena cannot be denied, especially as the few names of deities which are sufficiently widespread among the different IE stocks to posit a PIE linguistic form relate to natural phenomena such as the Sun, the Dawn, and the Sky. Attention to primarily natural phenomena in IE myth is particularly to be seen in the more recent works of Jean Haudry who has suggested that a central cosmological concept of the Indo-Europeans was that the universe was divided into three skies (a diurnal, dawn/twilight, and nocturnal) which served to organize other fundamental themes, e.g., divinities (celestial gods, bridging gods, and night spirits or spirits of the dead), colors (white diurnal sky, red dawn or twilight sky, and dark night sky), social functions (the celestial colors have a social valence), and about which mythic narratives were developed, e.g., the archetypal hero such as Hēraklēs (proposedly related to Hēra [< *i̯ēreh$_a$- 'year']) conquers the 'year', i.e., gains immortality and avoids the cyclic nature of existence. (Although frequently proposed, the etymological basis for this entire argument is by no means secure and Hēra may well be from *i̯eh$_1$- 'make, be active' hence 'physical ability, strength' [cf. Spartan **εἰρήν** = /īrēn/) (< *ih$_1$r-en-) 'teenager' (= 'one possessed of youthful strength')]. Hēra would then be like her Roman counterpart Jūnō, a derivative of 'young', or OInd Śakti, also a derivative of 'strength'. Hēraklēs would then be 'famed for strength' which would make much better sense as a given name than 'famed for the year' or 'famed for Hēra'.)

The naturist school was very much dependent on etymological connections and this approach has also been recently extended in Garrett Olmsted's attempt to reconstruct PIE myth by assembling the assorted bynames (aliases, epithets, epiphanies, etc.) of various Celtic deities and extending comparison to the mythological traditions of other IE stocks. A single Gaulish god, for example, is regarded as underlying Gaulish Vellaunos and Esus (in the Roman interpretation, Mārs and Mercury) and his characteristics can be assembled by analysis of the various bynames, e.g., *Vernostonos* 'wound with thunder' (i.e., has control of the lightning bolt), *Ocelos* 'eye' or 'seer' (i.e., similar to the Norse Ōðinn), *Medocios* 'who renders judgement' (i.e., similar to Old Indic Varuṇa), from which one ultimately reconstructs a PIE sky god who wields a thunderbolt, rescues clouds from a serpent, and produces rain and fertility. Not entirely dissimilar to Max Müller's "disease of language" we have here a multiplicity of epithets for the various IE deities that may be projected back into the period of PIE "unity" which helps account for the apparent abundance of names for various divinities.

The Ritualist School

The ritualist school, championed by such scholars as Sir James Frazer (1854–1941) in his *Golden Bough*, emphasized the close relationship between myth and ritual. Its central focus was the belief that rituals were undertaken to manipulate, largely rejuvenate, the universe and that myth was merely the narrative accompaniment to such rituals. In Frazer's work great attention was focussed on the king as the embodiment of fertility who mated annually with a female spirit to promote the growth of vegetation and whose own health mirrored that of his society. Illness or disfigurement resulted in his incapacity to promote fertility; he had to be deposed or put to death by a successor or periodically die and be rejuvenated himself. The empirical basis of Frazer's study was world-wide reports of customs, folk-practice and belief, as well as myths. Comparative mythology might then uncover in ancient myths the various themes concerning the maintenance of fertility and, in some instances, possibly also the traces of ritual behavior designed to manipulate the elements.

As with the naturist approach, it would be impossible to ignore certain elements emphasized by the ritualist school that are to be found in the mythologies of the Indo-European stocks, e.g., the frequent theme emphasizing the ritual mating of the king with either a mare or a female figure who represented the (fertility of the) land. Moreover, other members of this school such as Lord Raglan have had a major impact on the study of comparative mythology. His *The Hero* (1930) investigated the recurrent structural patterns in the life of the hero, based both upon clearly mythic and also quasi-historical literature, where a recurrent sequence of events could be discerned, e.g., unusual conception of hero of noble birth, his exile and return. The underlying ritual behavior suggested by some IE myth has also been emphasized by Bruce Lincoln who has examined the nature of IE sacrifice within the general scheme of IE cosmogonic myth where the world is renewed, or better, "recycled" through the sacrifice of animals which restore to the macrocosm of existence that which was originally created. In some instances, specific rituals in IE traditions, e.g., the burial of hair to promote fertility, following the homology between hair and plants, help to augment reconstructions of IE myth. But, naturally, as an interpretive key to all IE mythology, a purely ritualist approach would either be required to ignore much of what appears most essential or force the mythic elements into a procrustean bed of interpretation.

Functionalist School

The functionalist school regards mythology as an expression of the social collective whose purpose is to reinforce or integrate social behavior. That myths do reflect the respective (often archaic) social structures can be argued on a tightly empirical base, for example, where one may encounter the palace-centered pantheon of the ancient Greeks where the various deities fill out both the occupations (e.g., warrior, smith, cup-bearer, messenger) and social behavior (e.g., constant intrigues, infidelities) of a Bronze Age or Iron Age palace society. In contrast, the pantheon of the Norse

with its emphasis on the drinking hall, dead warriors, and more limited social complexity reflects better the social realities of early Germanic society. On a more abstract level, myths may serve to express the underlying charter for societal behavior and its construction. This approach was particularly emphasized by Emile Durkheim (1858–1917) who regarded religion as "society personified" and the various deities or sets of deities might be seen as collective representations of the various social classes of society. The relationships between deities might then serve to reinforce the expected relationships that operate within societies or illuminate areas of structural conflicts. For example, the inferior social position of the lower orders in society is frequently "justified" in the mythic traditions of various IE stocks that relate how in some primeval contest the lower social orders were incorporated into society of the higher or in the simple order of births, three brothers assumed the three major roles in society (priest, warrior, herder-cultivator). As the school that most greatly influenced the works of Georges Dumézil, functionalism still plays an active part in the development of current approaches to IE mythology.

Structuralist School

The structuralist approach to mythology is primarily concerned with analyzing myths in terms of binary oppositions which the content of the myths seek to resolve. It assumes for all human beings there is a deeply embedded mental structure that sets up opposing patterns to achieve a resolution of conflicting elements. These oppositions might include the distinctions between the natural world and that constructed from culture (or the "raw and the cooked"), the male versus the female, left versus right, active versus inanimate, visible versus invisible, gods versus giants, aspects of color (black and white), direction (up and down, north and south, etc.) or anything else that might be reduced to a binary opposition. As an interpretive principle, such an approach can be turned on almost any mythic text. In terms of IE comparative myth, such an approach provides the basis of the reconstruction found in T. Gamkrelidze and V. Ivanov's study of IE culture, where they seek a binary opposition in the IE world view and social behavior rooted in the nature of IE marriage which, for them at least, was founded in the practice of women marrying across consanguineally related halves of society. Hence they seek reflexes of this dualism in dual kingship, cult of the Divine Twins, right and left dichotomy, etc. Structuralist opposition has been widely employed as both one of the alternative approaches to the functionalist in Indo-European comparative mythology and also as a complementary approach that can be integrated with others.

Tripartition

The most widespread approach to IE myth today was first laid out by Georges Dumézil (1898–1986) in the 1930s and 1940s. It seeks to tie together different evidence, or sources of data, by identifying the dominant and common IE pattern-producing mode, first and specifically tripartition, the urge to divide mythic structures into three. Tripartition is regarded as basic and central to an IE system or "ideology", an ideology thus shaped with a strong segmentary—to use an anthropological term—impulse or bias. Myth, either intact or reflected (or disassembled) is brought forward as an illustration or illumination of this ideology. The systematic association of three *fonctions* or Functions—accepted as Sovereignty (F1), Guardianship or the Warrior Function (F2) and the Function of Fertility (health, sexuality, etc.) (F3)—is sought out in terms of statements of or concerning founding myth, religious structure and belief, in socio-political organization (regarded as primary, but sometimes reconstructible only indirectly or by inference), even in the relict characters and themes of legend and folklore. The implicit assumption is that an IE or PIE mythic code or matrix (and primarily the tripartitive impulse) has usually left behind it traces of itself. Another assumption is that of the persistence over time of this pattern, so that even when the "functional" aspects of pagan religion (with the pantheon of divinities seemingly divided according to the three major functions they reflected or served) disappeared with the advent of Christianity, the tripartite code might emerge, much later, in quite another area. For example, Western medieval civilization was ideally divided into the clearly identifiable trifunctional job-titles of *oratores, bellatores, laboratores*—those who prayed, those who fought, those who worked, a revivification of the putative PIE societal structure. Or in another IE familial situation investigated by Dumézil, trifunctional and other patterns, encased in pagan myth and legend, survived the christianization of Scandinavia, and clearly re-emerged in the evidence of the *Eddas* and the epic-heroic sagas as these were written down three centuries or more after the first wave of conversion and baptism. The persistence of the IE tripartite model thus establishes a diachronic-historical, and not merely a synchronic-structural, pattern and in this way differs fundamentally from the structuralist approach to mythology.

Dumézil's IE tripartite theory was supported early on by the work of scholars such as Emile Benveniste and Stig Wikander. Benveniste helped ground Dumézil's theories in the ancient and important Iranian area, while Wikander investigated Indic epic and other Iranian possibilities as well. Tripartitism since then has revealed its "echoes" resonating in a number of specific, contextually IE mythic or paramythic situations or dramas and has been employed to determine the probable existence of an IE base, root, or influence in a particular cultural context. Thematic instances of tripartition include, but are by no means limited to (a) the three "crimes" of the king (connected to the theme of the king or sovereign necessarily operating in all three functions) and the calamities that proceed from these delicts; (b) the three sins of the warrior, the theme of a type of death as fitted to each function, again usually referent to the figure of the sovereign and how he, engrossing all functions himself, may have to die a "three-

Examples of Tripartition in Various Indo-European Traditions

INDIA

	Mitanni deities	*RV*	*Mahābhārata*	Indic classes Manu 8.113
I: sovereign	Mi-it-ra Aru-na	Mitra Varuṇa	Yudhiṣṭhira Pāṇḍu	*brahmán* swears by truth
II: warfare	In-da-ra	Indra	Arjuna	*kṣatriya* swears by chariot and weapons
III: fertility	Na-sa-at-tiya	Nāsatya Dasra	Nakula Sahadeva	*vaiśya* swears by cattle, grain and gold

IRAN

	Avesta	Iranian social classes	Sacred fires initiated by early Iranian kings (*Shānāmeh*)	Prayer to Ahura Mazdāh to ward off
I: sovereign	Aša Vasišta Vohu Mana	*āthravan* 'fire priest'	Atur Farnbag 'priests'	demonic evil and heresy
II: warfare	Xsaθra Vairya	*rathaēštar* 'chariot warrior'	Atur Gushnasp 'warriors'	military conquest
III: fertility	Amṛtāt Haurvatāt	*vastryō fšuyant-* 'herdsmen'	Atur Bazzen Mihr	bad year of harvest

GREECE

	Judgment of Paris	Athenian social groups	Lycurgus's reforms
I: sovereign	Hēra promises kingship	*ἱεροποιοί* 'priests'	establish senate
II: warfare	Athēnē promises military victory	*φύλακες* 'guards'	established military messes
III: fertility	Aphroditē promises love of most beautiful woman	*γεωργοί* 'farmers'	redistributed land

ROME

	Deities	Major Roman priests	History
I: sovereign	Jūpiter Diūs Fidius	Flāmen Diālis (Jūpiter)	Rōmulus Numa
II: warfare	Mārs	Flāmen Martiālis (Mārs)	Tullius Hostilius
III: fertility	Quirīnus	Flāmen Quirīnālis (Quirīnus)	Ancus Martius

SCANDINAVIA

	Deities	*Heimskringla*
I: sovereign	Ōðinn Týr	on Winter's Day a blood sacrifice for a good year
II: warfare	Þórr	on a Summer's Day, a sacrifice 'for victory in battle'
III: fertility	Njörðr Freyr Freyja	in the middle of Winter, a sacrifice 'for a good crop'.

A Scheme for Dividing Indo-European Tripartition

Function 'Marker'	Left Hand	Interstitial	Right Hand
F1: TIME	Varunaic King	Magical King	Mitraic king
	Time: uncontrolled	Controlled	Delimited
F2: ACT	Óðinn-warrior	"Doubled" warrior	Þórr-warrior
	Act: uncontrolled	Controlled	Delimited
F3: SPACE	Merchant	Herdsman	Farmer
	space: uncontrolled	Controlled	Delimited

fold death"; (c) the three major categories of diseases or ailments and the three types of remedies that might be applied. All of these themes are dealt with elsewhere in this volume. Tripartition has also been located in images of division or the parts of the human body (head = F1, mid-body and arms = F2, and lower body and legs = F3), in such symbolic usages as functionally ordered colors (generally, white and gold = F1, red = F2, green/blue = F3), and even in spatial or geographical divisions. The best known spatial reference would identify the sky as a F1 zone, the earth as F2, and the subterranean (or sometimes submarine) zone as F3. As the place of vegetal fertility and potential life, such a division comes into play when defining the place of *topos* of particular gods—or with funerary customs (cremation or the body given to the sky, placement of the body on the earth, interment within the earth).

Interfunctional Relations

"Echoes" in the mythic stratum also help to fill out the full image of each function in terms of both its positive and negative valences, and they also demonstrate the systematic, and not always cooperative, relationships between the functions. In terms of the latter, the most prominent and dramatic theme has been what Dumézil called the War of the Foundation (or Interfunctional War). As this theme works itself out, there is a secondary division initially established between the first two functions (priests and warriors) on the one hand, and the F3 zone and potency of herder-cultivators on the other. This division cannot be healed, and a complete tripartite unity achieved, until the third function is either defeated or otherwise manipulated and convinced to join the totality. Dumézil's original evidence came from the Norse myth of the war between the Æsir and Vanir and from Roman historicized myth (rape of the Sabines), but there may be additional evidence for the drama of reconstitution to be found in various places in the Greek sources, even including the *Iliad* with the Trojans occupying F3. It may be said that the subordinate or anomalous situation of the F3 area regularly recurs in the evidence that is available to us, where the hero-warrior of the second function displays his disdain or unconcern with the potencies or impotencies of the common agricultural population (F3), especially as their *mass* or numbers contrast to his heroic singularity. Some have seen in this mythic theme evidence for real hostility among the functions, and the theoretical construction of a PIE society where agriculture (and perhaps the city, though not the activity of the herdsman) lay outside of or exotic to the PIE socio-economic system (cf. the clear bias among Hebrew pastoralists in *Genesis* where the sacrificial offerings of Abel, the herdsman, were favorable to God while the agricultural fruits of Cain, the settled farmer, were unfavorably received).

Other tensions between the functions also can be found, as when the ideology or true "sovereignty" is seized by or allocated to a purely priestly or spiritual power (as in Vedic India and the *brahmán* priestly caste, or in the medieval West) and the secular-military aspect of kingship is isolated and forced "downward" into the warrior function, or when the triumphant F2 zone of force and war, in a reversing manœuvre, actively seeks to denature or even to remove most of the powers of the sovereign function, with the intent of drastically limiting or even demolishing kingship itself (e.g., Greek aristocracies dominating the *polis*, Roman republican rule).

Duality or Bifurcation

The second important direction in which IE specialists have turned or focussed their recovered mythic evidence is toward the discovery of dual or binary aspects in each function. Dumézil's initial suggestion and research involved the bifurcation of sovereignty into two subsets of powers, Varunaic and Mitraic. Very briefly described, the Mitraic aspect of sovereignty shows forth the overt powers of the ruler, the areas of justice, enforcing social order, and the exercise of the sword-power, all powers operative in the open. Varunaic potencies are always darker, more mysterious, magical and even irrational and, in fact, are often difficult to define precisely. A simple demonstrative formula would put the king's *justice* (effect follows on cause) on the Mitraic side, his *mercy* (random, uncaused, unpredictable) on the other; the orienting terms of left hand for the Varunaic, right hand for the Mitraic may have been used.

Dumézil's second exploration was into the bifurcated nature of the warrior (F2) function; he located, using especially the legendary and myth-epical materials and sources of the Germanic-Scandinavian North, a figure he termed a "warrior

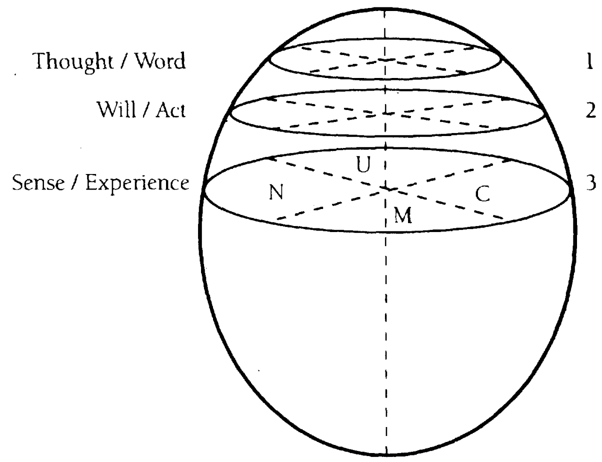
of Ōðinn" presented or contrasted against a "warrior of Þōrr". The two types make a contrast specifically in their allegiance to one or another key aspect of the second function: one aspect is controlled, pro-social, open, honorable (the Þōrr-warrior), the other in contrast is uncontrolled, destructive, mysterious and threatening (the warrior of Ōðinn). Evidence for this divided warriorhood may be found elsewhere in IE contexts; it is suggested, at least, in a sequential arrangement when the Athenian *ephēbos*, the uncontrolled guerilla-fighter and "black-hunter" graduates to full and disciplined social service in the ranks of the hoplite army. It might be noted that an alternative explanation for the "duality" of the IE warrior function has been proposed by Kim McCone who has suggested that the so-called "warrior of Ōðinn" actually reflects an IE age set of young warrior while the "warrior of Þōrr" reflects the older age set of married and landed or at least propertied warriors who are part of the IE **teutéh*$_a$- 'tribe' under a ***h_3*rḗĝs* 'king'. The final age set, according to McCone's system, would be that of the elders, the non-combatants who were respected for their wisdom and advice and who therefore filled out what Dumézil has otherwise termed his "First Function".

The Third Function already has an important mythic marker in terms of the twinned gods that can reside in or represent it (the Indic Aśvins, for example, or the Greek Dioskouroi); this gemination seems to reinforce the idea, primary to this Third Function, of multiplicity or plenty, but see below for other explanations and complications.

On the other hand, the F3 twins, and the phenomenon of duality, may reflect or be related to an ancient IE cosmogonic drama, one that was described and decoded in separate investigations by both Jaan Puhvel and Bruce Lincoln: the origins of society (or at least of religion and the sacral) are assigned to a primeval act in which "Man" kills "Twin" in order for the act of cosmogony or foundation to proceed. The sources here are Indic-Vedic, Iranian and Germanic, and the theme is reflected at last in the Roman "legend" of Rōmulus and Remus and the founding of Rome.

These attempts to divide the inner structure of the functions have most recently been associated with a general reworking of the original tripartite system, and especially a remapping of the functions so as to produce a scheme in which each function is divided not just into left and right modalities, but also shown to contain an intermediating force or figure, one self-crafted to operate according to the basic plot of the function itself. That is to say, if we take the Þōrr-warrior/Ōðinn-warrior division, we find at the center, between them, a "doubled" warrior who may operate in either zone, and the same intermediating ("self-controlling") figure may be located for the First or Sovereign Function. Again, the Third Function gives considerable difficulty, but what can theoretically be produced takes the shape of the accompanying diagram.

A significant step beyond this two dimensional enneagram has been taken by William Sayers, who has subjected the three functional areas to a reformulation that actually allows a tri-dimensional diagram to be designed: each functional



Comparative Mythology William Sayer's three-dimensional representation of Indo-European trifunctionality. It is organized into the three functions (1. sacred-juridical; 2. martial activity; 3. fertility) where each function (also expressed in terms of Thought, Will and Sense) is scaled horizontally according to the size of its representation within society. This model also incorporates a series of dichotomies widely recognized in mythological analysis. For example, the dichotomy between the human-centered world and nature is recognized in orientation (C = culture, N = nature). Similarly, the distinction between the mediated (M), the normative view of culture, is contrasted in modality with the unmediated (U), the unpredictable world of tricksters, outlaws, criminals and craftsmen. In this way a character in Indo-European mythology may be located within a three-dimensional construct and his career can be plotted dynamically through the model.

zone may react not to one but to two situating elements, that is, controlled/uncontrolled and nature/culture. Sayers' spheroid figure has the additional advantage of showing the relative proportion of the three functions in terms of the totality, where the size of the function is inversely related to its "ideological" importance: more signifies less.

A Fourth Function?

Finally, some investigators in the IE area have recalculated myth and the mythic evidence to question and to re-examine, or at least to modify, the very tripartite urge that seems to dominate so much of the way IE-speaking cultures have structured or reinvented their particular imaginative cosmos. Dumézil knew early on of evidence suggesting that in some IE cultural sources the dominant shape or "ideology" was not ternary but quaternary; the Indic caste system, for example, defined the caste hierarchy as composed of *brahmán*, *kṣatriya*, *vaiśya* and *śūdra*, each with its attached cluster of powers and responsibilities. The last group, the *śūdra*, might be ignored because it was outcast, or situated outside the integral system, but there is IE evidence elsewhere that also suggests

or even demands a quadripartite functional division. The Reeses found the ancient Irish provincial plan to provide four foci for four "energies" or functions, plus the commanding or central Fifth; the ancient Indic evidence also speaks of five 'tribes' or divisions. In Ireland, according to the Reeses, a divided Sovereignty is present or resident in two "directions" (center and west, Meath and Connacht), war and warrior take the north (Ulster), prosperity is in the east or the province of Leinster, while the remaining direction and province (south, Munster) mixes its signals and is more than a little exotypic, even sinister. They also found Irish (and other IE) evidence for an additional social division, containing a variety of craftsmen, entertainers, and marginal characters and occupations, but including the smith, an important or even primary artisan often connected, as a weapons-maker (and, in the myth-epical evidence, as a fosterer), to the Warrior Function.

In terms of this quaternary theme and the explanation of its mythic echoes, we can now look to two theoretical suggestions, those of Nicholas Allen and of Emily Lyle. The first finds the likelihood of a Fourth Function reinforced because of parallels with other societies that project a segmentary "ideology", but finds support as well in terms of the plausibility of a "closing" function, one standing for what is alien, threatening, ambiguous, "beyond" or "outside" the normative IE tripartite system; this function then is less substantive than it is defined relationally. The second theory uses mythic sources often mined for their reflection of IE structures, such as the Greek, the Vedic and the Irish, to posit that a complete IE system would have three "male"-orientated functions and an overarching or all-inclusive "female" function, standing, among other things, for truthfulness or, possibly, for that earth upon which all the other functions must act or exist; Lyle also adduces calendrical or seasonal and other diagrammatic cyclical-circular plans to reinforce her arguments, and she is sensitive to such quaternary divisions as the four directions, seasons, elements, of even the four humors controlling the human body. Lyle's theory at least integrates an aspect of the feminine into an IE structure. Generally IE specialists have dealt with the feminine aspects of power in a gingerly fashion: feminine deities can be found associated with the F3 area, as would be expected given the powers encased in that area, and it is possible that the Varunaic modality of sovereignty contains a symbolic femininity, or that the feminine is integrated into the king-sovereign's responsibility to be a harmonizer or even a "vessel of piety". It may be noted that of all the IE functions, it is the F2 zone where the equality of the sexes is best recognized in myth-epical terms, in the widely-encountered image of the Amazon or woman-warrior.

Summation

Clearly the approach to myth taken by investigators into the IE ideology has by no means been closed off or declared a final or concluded matter. In terms of the "ideology" controlling IE religion, decoding the functional setting or action of particular divinities (Norse, Gaulish-Celtic, and especially Greek) has not been at all easy. The Fourth Function is still an attractive object for investigation and theory. The IE ternary urge or patterning impulse, on the other hand, still exists as an attribute which cannot ever be absolutely limited to IE-speaking cultures (any more than dual or bifurcate sovereignty can be) but tripartition does appear to be more likely to be found in and characteristic of an IE context, and often in exotic or out-of-the-way sources. The ternary mark or marking, however derived, seems ever available; its imaging always near the surface. Thus when William of Tyre, the twelfth century historian of the Crusades, referred to Saladin, nemesis of Outremer, he called him "wise, brave, and generous", that is, he attached to the Moslem general the canonical, in fact the *mythic*, excellences of the good or true IE sovereign. Yet the mere collection of tripartite cases and citations can be of little or trifling utility; IE "comparative mythology" demands strict attention to the ramifications of theory, and specifically of the theoretical structure broadly conceived by Dumézil. No criticism of this scholar has been able to finally and absolutely shatter and replace the complex image of the IE "ideology" he established.

See also COSMOGONY; COSMOLOGY; DIVINE TWINS; ESCHATOLOGY; GODDESSES; PRIEST; SACRIFICE; WAR OF THE FOUNDATION; WARRIORS. [D.A.M., J.P.M.]

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COMPENSATION

k^woineh$_a$- 'compensation'. [*IEW* 637 (*k^uoi-nā*); Wat 33 (**k^woi-nā*); GI 709 (**k^{ho}e/oi-(nā-)*); Buck 16.76; BK 318 (**k^w[^{h}]ay-/*k^w[^{h}]əy-*)]. MIr *cin* 'guilt, crime, payment due', OPrus *er-kīnint* 'freed from the devil', Lith *káina* 'price', OCS *cěna* 'price', Grk *ποινή* 'compensation for a crime; blood price', Av *kaēnā-* 'vengeance, hatred', *kāy-* 'pay, compensate', OInd *cáyate* 'pays, punishes'. Distribution indicates PIE status. Cf. the related **$h_4$epok^{w}itis* 'compensation'. [*IEW* 637 (**k^ui-ti-*); Wat 33 (**k^wei-*)]. Grk *ἀπότισις* 'recompense', OInd *ápa-citi-* 'recompense'. With a different morphological formation is Proto-Anatolian **k^widhlom* seen in Lycian *tllaxñta* 'payment, tribute', Milyan *kille* 'payment, tribute'.

Both forms are built on **k^wei-* 'fine, punish' which also underlies Grk *τίνω* 'make someone pay (a debt, ransom, fine)' > 'take vengeance, chastise' (cf. Grk *τίσις* 'payment, punishment, vengeance'). The notion here is very much one of exacting punishment for a crime such as murder or violation of an oath. This sense can also be found in early Irish texts, e.g., *i cintaib* 'in revenge'. An extended development of the underlying concept would then naturally be 'hate' as seen in the Avestan form. Although sometimes compared here, forms such as Grk *τίω* 'honor, praise', OInd *cáyati* 'has regard, respect for' were seen by Emile Benveniste as semantically distant and a result of contamination between two homophonous stems (**k^wei-*), one indicating 'punishment' and the other 'honor'. On the other hand, the early Irish *cin* not only designates 'guilt, crime, payment' but may also mean 'respect, esteem' and the relationship between the estimation of one's honor and the price of maintaining it may not have been so distant.

serk- 'make restitution'. [*IEW* 912 (**serk-*); Wat 58 (**serk-*)]. Lat *sarciō* 'make restitution; make whole (i.e., repair)', Hit *šarnikzi* 'makes restitution'. The meaning 'make restitution (for damage done)' is a specialization, of PIE age, of **serk-* 'make a circle, complete' (cf. TochB *serke* 'circle, cycle, complete set') and is a lexical manifestation of the notion that in a society founded on exchange and reciprocity, an offense, whether to gods or to men, requires restitution or recompense to complete the circle of social obligation.

dhl̥gh- 'debt' [*IEW* 271 (**dhl̥gh-*); GI 708]. OIr *dligid* 'is entitled to, is owed', Wels *dlyed* 'duty', Goth *dulgs* 'debt', OCS *dlŭgŭ* 'debt'. A word confined to the IE northwest. It has been suggested (and denied) that the Gothic word is borrowed from Celtic; it has also been suggested (and denied), independently of the previous proposal, that the OCS word was borrowed from Gothic. Both borrowing hypotheses are possible; neither is compelling. It has also been suggested that the word is originally non-IE.

See also BLAME; CIRCLE; CRIME; HONOR. [E.C.P., D.Q.A.]

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COMPLAIN

?*leh$_a$- 'complain, cry out'. [*IEW* 650 (**lā-*); Wat 34 (**lā-*)]. OIr *líid* 'complains', Wels *edliw(io)* 'blame', Lat *lāmenta* 'lamentation', Grk (Hesychius) *λαίω* '± make a sound', Arm *lam* 'cry, weep'. Latin and Armenian clearly presuppose an earlier **leh$_a$-* while Celtic would seem to reflect **leh$_1$-*. The discrepancy is unexplained. Of possible but by no means certain PIE antiquity. Possibly related to **leh$_a$-* 'bark'.

See also BARK[2]; GRIEVE. [D.Q.A.]

CONCUBINE

?*parikeh$_a$- '± concubine; wanton woman'. [*IEW* 789 (**parīkā*)]. MIr *airech* '(type of) concubine', Av *pairikā* 'demonic courtesan'. Phonologically, the two forms are comparable although the semantic relationship is somewhat distant. The MIr *airech* was a woman whose position (honor-price) in society was half that of a *prīm-ben* 'wife of the first class' but was regarded higher than that of a *carthach* 'lover' or *dormaine* 'whore'. Unlike the *carthach*, the services of the *airech* were not for free. The Avestan *pairikā* has cognates in Parthian *Parīk*, NPers *Perī*. The term referred to a group of beautiful temptresses who exercised special powers over earth, water, fire, livestock and the plant world. In the service of the evil force, Ahriman, they work their sorcery on the stars to prevent rain.

Many societies have tolerated some form of polygamy or concubinage but such relations in PIE society were probably the exception rather than the rule, as is the case in most societies which tolerate polygamy. Nevertheless, the use of specialized terms to designate legitimate children indicates that such unions were not unheard of although it might be emphasized that one of the distinguishing characteristics of early Irish legal institutions is that they recognized illegitimate children as heirs as well as legitimate (a practice that scandalized the English). Although very poorly attested, the Celtic-Iranian correspondence may suggest IE antiquity.

See also WIFE. [M.E.H., J.P.M.]

CONIFER *see* PINE

CONQUER

seĝh- 'hold fast, conquer'. [*IEW* 888–889 (**seĝh-*); Wat 56 (**segh-*); GI 134 (**seĝ^h-*); Buck 20.41; BK 185 (**sag-/*səg-*)]. OIr *seg* (*DIL sed*) 'strong', MWels *haer* (< **sagro-*) 'stubborn', Wels *hy* 'clever', ON *sigr* 'victory', OE *sigor* ~ *sige* 'victory', OHG *sigu* ~ *sigi* 'victory', Goth *sigis* 'victory' (< **seĝhes-*, perhaps conflated with **seĝhur̥*; cf. the derived

Germanic verb in: ON *sigra*, OE *sigorian*, OHG *sigirōn*, all 'conquer', OHG *ubar-sigirōt* 'triumphant'), Grk *ἔχω* 'hold', *ἴσχω* (< **si-sĝhe/o*) 'hold', Av *haz-* 'gain', *hazah* 'outrage', OInd *sáhate* 'overcomes', *sáhas-* 'victory', TochAB *sāk-* 'hold oneself back'. One should also note the derived **seĝhur̥* in Grk *ἐχυρός* 'firm, strong', Hit *sakkuriya-* 'overcome' (though the *-kk-* rather than the expected *-k-* is unexplained), OInd *sáhuri-* 'victorious'. Widespread and old in IE, used of 'strength' both physical and mental (as shown by the Celtic cognates). Both Celtic, e.g., Gaul *Sego-marus*, *Sego-dūnum* and Germanic, e.g., ON *Sigurðr*, OE *Sigeweard*, OHG *Sigwart*, frequently employed this word in personal and place names; it possibly also underlies the name of the Trojan hero *Ἕκτωρ* 'Hektōr'.

See also Army; Booty; Fight; Warfare. [E.C.P.]

CONSORT GODDESS

Various IE groups evidence a goddess in the role of royal consort. In addition, associated themes include protectress of marriage, fertility, and the bestowal of the gift of prophecy. These functions are much too generic to support the supposition of a distinct PIE "consort goddess" and many of the "consorts" probably represent assimilations of earlier goddesses who may have had nothing to do with marriage.

Greek Hēra (Roman Jūnō) was a consort goddess, similar to the Germanic Frigg, and the Indic concept of the 'Great'-goddess Devī as Śakti 'power', the power which an Indic consort gave to her husband. Hēra was sister and wife of the king of the gods, Zeus. She was already connected with Zeus to some extent in Mycenaean texts of *c* 1200 BC (e.g., PY 172). Hēra is not necessarily the 'beloved wife', but the 'betrayed wife'. Zeus has a multitude of affairs (only thus can he be the father of all the deities and heroes) by different mistresses, and Hēra always wreaks vengeance not upon her omnipotent husband but upon the young maidens whom Zeus seduces or rapes. The *Scholia on Theocritus* (15.64) states that initially, Zeus was unsuccessful in his courting of Hēra. He therefore turned himself into a cuckoo which perched, shivering, on Hēra's knee. Hēra took pity on the cuckoo and warmed it at her breast, whereupon the cuckoo re-metamorphosed into Zeus, who seized Hēra. She agreed to marry him, if he would not rape her. Their wedding night, on the Isle of Samos, lasted three hundred years. Because she was the consort *par excellence*, Hēra was the goddess of marriage. Her children by Zeus were the war-god Arēs, the goddess of youth, Hēbē, and the smith-god Hēphaistos; she was said to have given birth to the latter parthenogenetically. She was also said to have given parthenogenetic birth to the monstrous serpent Tȳphōn, whom the father-god Zeus slew. She was associated with the serpent in her iconography as well as her mythology: in her sanctuaries were found votive offerings which included terracotta snakes. Hēra was the 'cow-eyed' (cf. Homer, *Iliad* 1.551); she thus has affinities with bovine goddesses such as the Egyptian goddess Hathor. Hēra, like the Germanic consort-goddess Frigg, was able to bestow the gift of prophecy (cf. the *Scholia on Homer, Iliad* 19.407), and she gave wise advice to Zeus (*Homeric Hymn* 3.345-346). Hēra had three surnames, which reflected three stages of life: she was called 'Child'; 'The Completed One' (that is, matron); and 'Widow' (or, the divorced or abstinent woman) (cf. Pausanias, *Description of Greece* 8.22.2). These life stages were not linear but cyclical; each year she renewed her virginity by bathing in the river Kanathus (Pausanias, *Description of Greece* 2.38.2-3).

Roman Jūnō (Greek Hēra) had much the same mythology as Hēra, as sister and wife of Jūpiter (Greek Zeus). She too is the consort-goddess, and as wife of Jūpiter she is invoked as both *regina*, 'queen', and *mater*, 'mother'. Although Arēs was considered the son of both Hēra and Zeus, Mārs, the Roman counterpart of Arēs, was described as the parthenogenetic offspring of Jūnō alone (Ovid, *Fasti* 5.231-232). Jūnō was a transfunctional goddess, Jūnō S.M.R.: *seispes* 'unblemished' or 'savior', *mater* 'mother', *regina* 'queen'. In her ritual grove in Lanuvium, which was guarded by a serpent, the dictator of Lanuvium made sacrifice to Jūnō Seispes alone, rather than as consort of King Jūpiter. On allotted days, young women enter the grove bearing barley cakes. If the woman is a virgin, the serpent will eat the cake; otherwise, the cake is rejected and the maiden is duly punished. As a goddess of childbirth, Jūnō was invoked by women in labor, and she assisted at childbirth. In a ritual for Jūnō Lūcīna, in a grove under the Esquiline Mount, young girls offered their backs, and were struck with thongs; by this means, they believed that they could achieve an easy conception. Jūnō was also worshipped in the woodland grove of Aricia, where there were bloody rites to determine the successorship of priests. Jūnō was invoked for religious and political unity, along with the two other deities of the Capitoline triad, Jūpiter and Minerva (cf. the Iranian invocations, found in many inscriptions, to the triad Ahura Mazdāh, Anāhitā and Miθra).

Frigg, the 'loved one' (cf. Av *fryō* 'dear', OInd *priyā́* 'wife, daughter'), was the Germanic wife of Óðinn and protectress of marriage. She represented marital chastity, similar to the Greek Hēra and the Roman Jūnō. She could foresee the future: she 'knows the whole of fate, even though she says nothing' (Poetic Edda, '*Lokasenna*' 29).

In Tantric philosophy, the Indic goddess Śakti was the principle of activating female energy. In singular form, Śakti is manifested particularly as the consort of the god Śiva, who in turn represents static energy (cf. *Saundaryalaharī* 1). Śakti is one aspect of the 'Great'-goddess, Devī. As activating energy, Śakti is personified as a plural deity as well as a singular one. Each Śakti is the consort of a male deity. Śakti was the matron goddess, the wife *par excellence*, similar to the Germanic Frigg and the Greco-Roman Hēra/Jūnō.

See also Goddesses; Love Goddess; Transfunctional Goddess. [M.R.D.]

CONTEND

h₃enh₂- 'contend, quarrel'. [*IEW* 779 (**ono-*); Puhvel 3:77–84]. MIr *on* 'shame, disgrace, dishonor', Grk *ὄνομαι*

'impugn, quarrel with', Hit *hann(a)-* 'contend (against), contest, take legal action (against), sue'. Though only sparsely attested, the geographical distribution of the attestations strongly suggests PIE status for this word.

mel- 'argue, contend'. [cf. VW 302]. ON *māl* 'speech, legal dispute', OE *mǣl* 'speech, quarrel', Grk *μωλέω* (Cretan *μωλίω*) 'contend, bring an action in a suit', *μῶλος* 'toil of war, struggle', *ἀντιμῶλος* 'adversary in a suit', TochB *mäl-* 'argue, contest', *moliye* (< **mōluh$_1$en-* or **moluh$_1$en-*) '± dispute'. Whether this word is further related to Lat *mōlēs* 'shapeless mass, bulk, pile', *molestus* 'troublesome, irksome, grievous' is unclear. With or without the Latin we have good evidence for PIE antiquity for this word.

reus- '± contend with, be angry at'. [cf. Mayrhofer II, 471]. MHG *rūsen* 'make a noise, uproar; rage, rave, bluster', OInd *róṣati* 'displeases, takes offense at', *roṣáyati* 'angers, irritates', TochB *räs-* '± criticize, accuse, object to'. Sufficiently widespread probably to guarantee its PIE status.

h$_4$erg^w- 'argue, assert'. [Puhvel 1:150; cf. Wat 3 (**arg-*)]. Lat *arguō* 'assert, prove, accuse', Hit *arkuwai-* (< **h$_4$erg^w-eh$_a$-i̯e/o-*) 'plead, argue, make excuses'. Again, though found only in two stocks, the geographical distribution would appear to guarantee PIE status.

See also **Anger**; **Speak**; **Threaten**. [D.Q.A.]

COOK

bhōg- 'bake, roast'. [*IEW* 113 (**bhōg-*); Wat 6 (**bhə-g-*); Buck 5.24]. ON *baka* 'to bake roast', OE *bacan* 'to bake, roast' (> NE *bake*), OHG *bahhan* 'to bake, roast', Grk *φώγω* ~ *φῴζω* (< **bhṓg(i̯)e/o-* with lengthened grade of an original iterative-intensive verb) 'roast, toast, parch'. Though not widely attested the substantial agreement between Germanic and Greek is certainly suggestive of this word's antiquity, at least in the west and center of the IE world.

bhr̥g- 'roast'. [*IEW* 137 (**bher-*); Wat 7 (*bher-*); GI 604 (**b^{h}rek̂'-/*b^{h}ruk̂'-*)]. Lat *frīgō* 'roast, bake, fry', Grk *φρῡ́γω* 'roast', MPers *barštan* 'to roast, bake', OInd *bhr̥jjáti* 'roasts'. This cognate set exhibits numerous phonological difficulties. The Old Indic and Middle Persian forms point to **bhr̥ĝ-* with a palatal velar. The Latin and Greek forms are non-committal with respect to the quality of the velar but differ in the quality of the long vowel they each exhibit. It is probably safest to reconstruct a root **bher-* 'roast' which is attested in the various languages, with several similar but different extensions.

pek^w- 'cook, bake'. [*IEW* 798 (**pek^u-*); Wat 48 (**pek^w-*); GI 604 (**p^{h}ek^{ho}-*); Buck 5.21]. Wels *pobiaf* (< **k^{w}ek^w-*) 'bake', Lat *coquō* (< **k^{w}ek^w-*) 'cook', Lith *kepù* 'bake', Latv *cepu* 'bake' (Baltic with metathesis of *p* and *k^w*), OCS *pekǫ* 'bake, roast', Alb *pjek* 'bake', Grk *πέσσω* (< **pek-i̯o-*) 'make ripen, cook', Av *pačaiti* 'cooks', OInd *pácati* 'cooks', TochA *päk-* 'becomes ready for eating', TochB *päk-* 'becomes ready for eating'. Distribution clearly indicates that this root can be reconstructed to PIE. This is also the case for the nominal derivative **pek^{w}tis* (noun) '(act of) cooking': Lat *coctiō* 'cooking', OPrus *pectis* 'fire shovel', OCS *peštĭ* 'cooking', Grk *πέψις* 'act of cooking, ripening', OInd *paktí-* 'cooking, cooked food', which seems secure enough although all the forms could conceivably be the result of parallel developments. Far less certain is the derivative **pek^{w}ter-* 'cook (as an agent)' seen in Lat *coctor* 'cook', Grk *πέπτρια* 'female baker', OInd *paktár-* 'cook'. The Greek form here cannot unproblematically be connected with the Latin and Old Indic forms and all three may well represent parallel formations so the case for reconstructing the agent noun, a PIE 'cook', is weak.

u̯er- 'boil, cook'. [*IEW* 1166 (**u̯er-*) ; Buck 5.21, 5.22; BK 491 (**wur-/*wor-*)]. Lith *vérdu* 'cook, boil', Latv *vȩ̃rdu* 'cook, boil', OCS *vĭrjǫ* 'cook, boil', Hit *war-* 'burn', TochA *wrātk-* 'cook'. It is possible that the Germanic adjective **u̯arma-* seen in ON *varmr*, OE *wearm* (> NE *warm*), OHG *warm* 'warm' belongs with this set; it is likely, however, that the Germanic form is a conflation of **u̯er-* with the PIE root **g^{w}hermós* ~ **g^{w}hormós* seen in Lat *formus* 'warm', Alb *zjarm* 'fire', Grk *θερμός* 'warm', Arm *ǰerm* 'warm', Av *garəma-* 'hot', OInd *gharmá-* 'glow, heat'. Although attested in relatively few stocks, those that do are distributed across a wide geographic range and hence the root can be reconstructed to PIE with a fair degree of confidence.

See also **Boil**; **Burn**; **Fire**, **Food**; **Hearth**; **Heat**. [M.N.]

COOT

bhel- 'coot'. [*IEW* 119 (**bhel-*)]. Lat *fulica* 'coot', OHG *belihha* ~ *pelihha* 'coot', Grk *φαληρίς* 'coot'. This is the only cognate set for the 'coot' and it clearly derives from a PIE **bhel-* but it cannot be derived from the root of that form that means 'bright, shiny' since the coot is gray and quite lackluster. Arm *p'ał* ~ *p'ałarik* 'coot' is a loan from Greek. There is also some similarity between Latv *papis* 'coot' and Arm *p'arp'ar* 'coot' which may suggest onomatopoeia. The coot is an odd water bird, favoring swamps and densely vegetated marshes; its flesh is not particularly tasty and it would require a fairly desperate eater to employ it for food. It is known throughout the IE-speaking area.

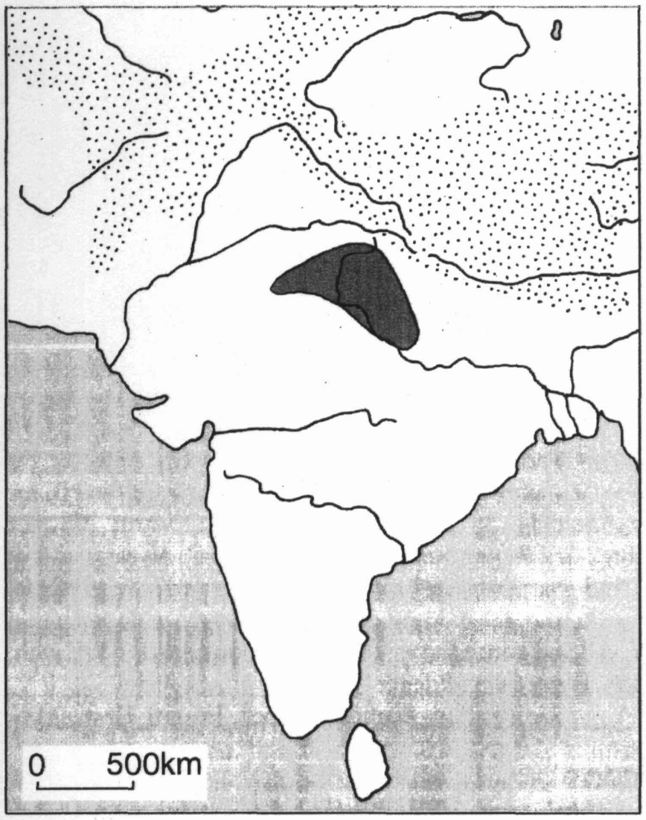
See also **Birds**. [J.A.C.G.]

COPPER *see* METAL

COPPER HOARD CULTURE

The Copper Hoard culture is primarily localized to the middle Ganges region, and dates very approximately to the period *c* 2000–1500 BC. Evidence for the culture is based largely on the discovery of hoards of copper artifacts, primarily consisting of harpoons, anthropomorphic figures (possible weapons), swords with antenna hilts, several different types of axes and a variety of ornaments. There is evidence that the copper hoards were also associated with the so-called Ochre Coloured Pottery (OCP).

The Copper Hoard culture has been variously attributed to Harappan refugees and to Indo-Aryan invaders. The latter theory, particularly promoted in the works of Robert Heine-Geldern, was based on the stylistic similarity between certain

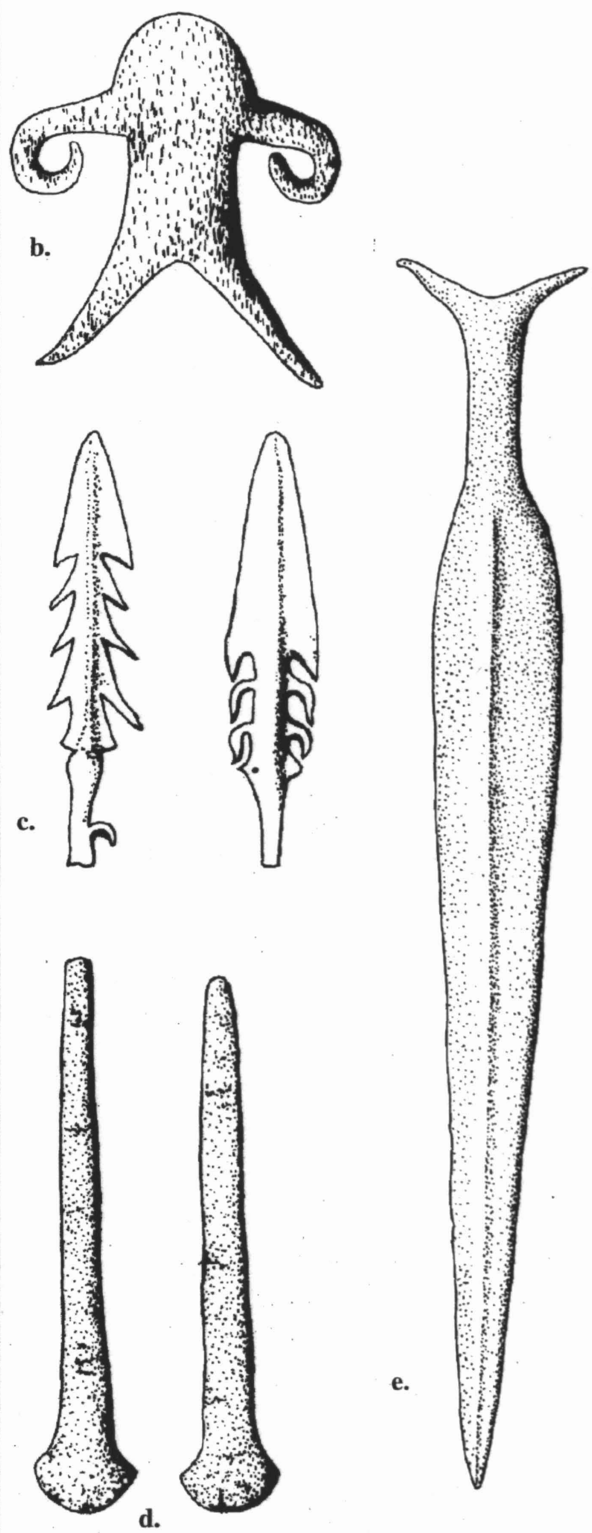


Copper Hoard a. Distribution of the Copper Hoard culture.

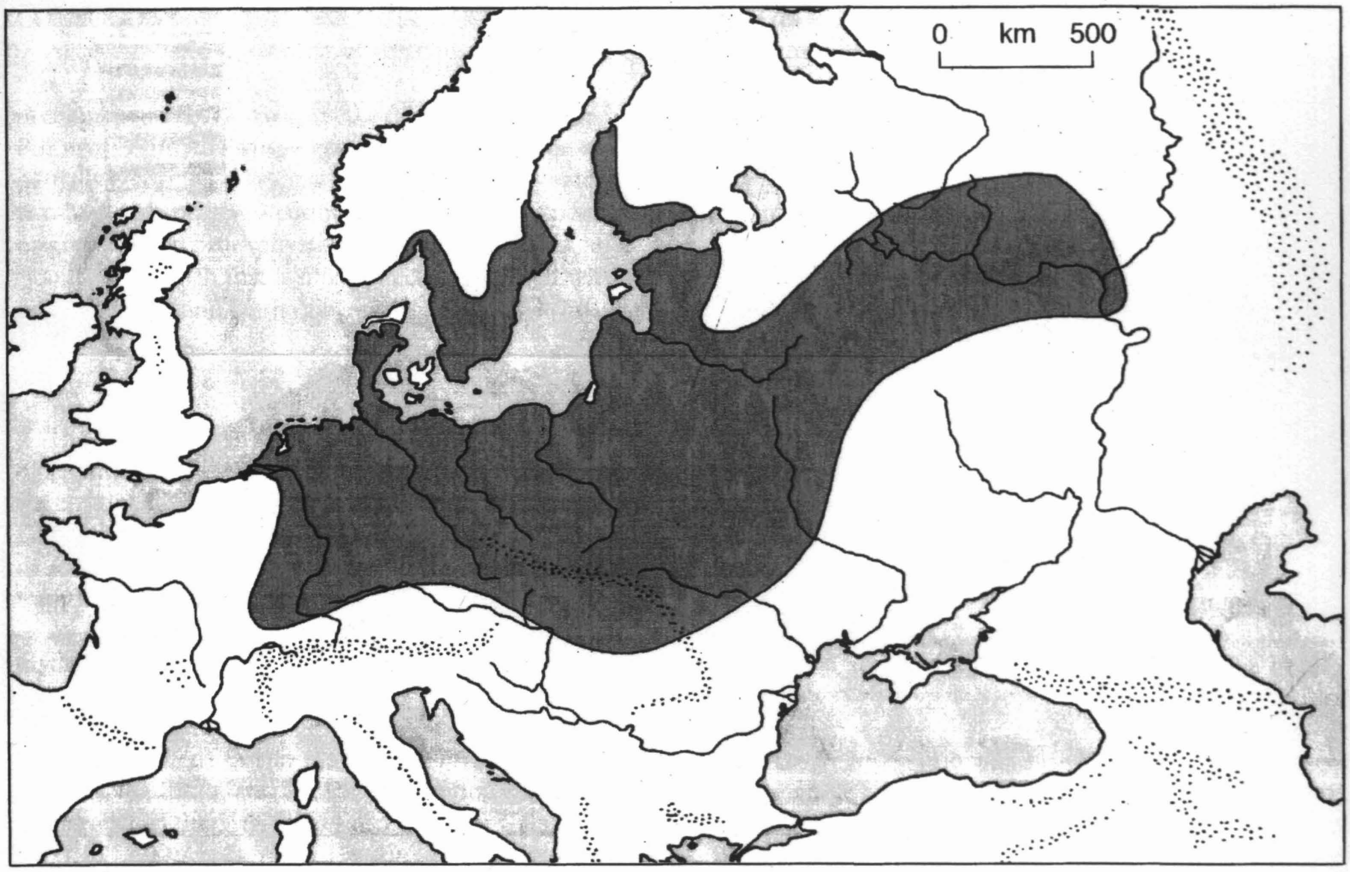
items in the Copper Hoards with more distant parallels west of the Indus and as far away as Russia. This theory has generally been abandoned although outside links are still proposed, for example, with the BMAC, another candidate for Proto-Indo-Aryan speakers. A major, and obvious, problem with associating the Copper Hoard culture with the earliest Indo-Aryans is that the culture was situated east of the region generally attributed to the geographical world of the Vedic Aryans. Harry Falk has suggested that it is more obviously correlated with the Middle Vedic culture, in particular the territory assigned to the Kuru-Pañcālas. The weapons, with the exception of the antenna-hilted swords, appear to be as much psychological as functional, i.e., large multi-barbed metal harpoons, anthropomorphic figures with hooked arms that may have been launched with a rope, and large bar celts which Falk identifies as the archaeological reality behind the *vajra*, the special weapon assigned to the Old Indic god of war, Indra. Falk has suggested that such weapons were intended to impress and terrify the indigenous populations of the Ganges during the eastern expansion of the Indo-Aryans.

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Copper Hoard b. Anthropomorph, which, along with the harpoons and bar celts, has been identified with the *vajra* of Indra; c. Barbed harpoons; d. Bar celts; e. Antenna sword.



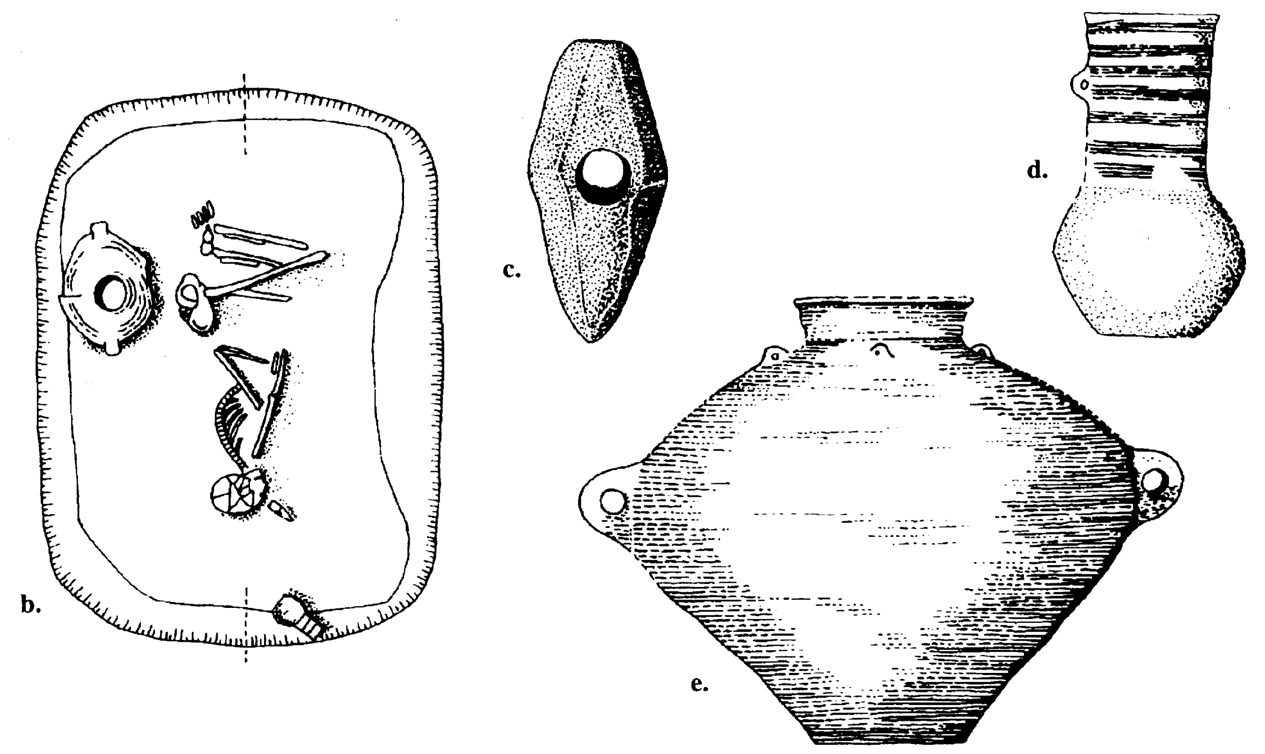
Corded Ware a. Generalized distribution of all Corded Ware variants.

Heine-Geldern, R. (1936) Archaeological traces of the Vedic Aryans. *Journal of the Indian Society of Oriental Art* 4, 87–115.

CORDED WARE CULTURE

The Corded Ware culture is the major north and central European cultural grouping of the Copper Age during the period *c* 3200–2300 BC. The culture, reflected primarily by its burials, is known from the Netherlands and Switzerland in the west, across southern Scandinavia and central Europe as far east as the upper Volga (Fatyanovo-Balanovo culture) in Russia and the middle Dnieper (Middle Dnieper culture) in the Ukraine. The burials are typified by flexed inhumation under a tumulus. Sexual distinctions are strongly marked with males on their right side, accompanied by stone battle-axes, beakers, arrowheads, and boar tooth pendants; females were on their left side and provided with canine-tooth pendants, and copper ornaments; both males and females were accompanied by cord-decorated amphorae. The faces of the deceased were directed to the south.

The Corded Ware culture(s) have long been regarded as typically Indo-European because of the lack of settlements which suggested a mobile pastoral economy (as was frequently assumed for the earliest Indo-Europeans); their wide area of distribution indicated rapid expansion at the appropriate time for IE dispersals; they were seen to be intrusive in many areas of Europe; the battle-axes were regarded as expressive of the warlike propensities frequently attributed to the IE-speaking peoples; their possession of both the horse and wheeled vehicles correlated well with some of the more diagnostic items of the reconstructed IE lexicon; their area of distribution coincided with various IE stocks such as Germanic, Baltic and Slavic; and no further significant cultural intrusion was admitted into their region that might have subsequently explained the emergence of IE stocks. For this reason, the Corded Ware culture was originally supposed to represent *the* PIE culture in theories that derived the Indo-Europeans from the north European plain. Today, this theory has little currency although the Corded Ware culture is still commonly seen as ancestral to those IE peoples whose immediate origins are sought across northern, central and parts of eastern Europe, i.e., the Celts, Germans, Balts and Slavs. Some of the other past generalizations must also be modified; for example, there is clear evidence that the Corded Ware cultures did engage in some agriculture. A Corded Ware pit from the site of Bronicice in southeast Poland yielded traces of emmer (*Triticum dicoccum*) and bread (*Tritium aestivum*) wheat, barley (*Hordeum vulgare*), lentils (*Lens esculenta*), and pea (*Pisum sativum*) and the discovery of domestic pig on Corded



Corded Ware b. Male burial from Vikletice, Czech Republic; c. Stone battle-ax; d Beaker; e. Amphora.

Ware sites indicates that they could not have been (fully) nomadic pastoralists.

Considerable controversy exists over the origins of the Corded Ware culture and its associations with other cultural groups. The distribution of the Neolithic TRB culture coincides considerably with the later range of Corded Ware sites and the physical type of Corded Ware burials tends to reflect that of earlier populations of the same region. There is little doubt that, at least in some regions, the earlier TRB culture should be associated with the origins of the Corded Ware horizon, e.g., in the Netherlands a Corded Ware house has been discovered which parallels the form of earlier TRB structures. In other areas, however, the appearance of Corded Ware burials does appear to herald a new culture and physical type, e.g., in Lithuania, although even here the numbers seem to have been few and did not significantly alter the genetic pool of the native population. A case study from southeast Poland suggests that Corded Ware populations may have taken advantage of local environmental and agricultural collapse to occupy previously depopulated regions.

Supporters of the Kurgan theory have argued that the immigrants from the steppe lands were a prime stimulus in the development of the Corded Ware culture. They argue that the Black Sea-Caspian region sees the earlier development of tumulus burial, cord decorated pottery, a mobile pastoral economy, domestication of the horse, use of wheeled vehicles, and the supposedly warlike society suggested by the presence of battle-axes. Opponents of such interpretations emphasize that such similarities are not genetic, e.g., tumuli and cord decoration are widely found through the world and do not require a uniquely Kurgan origin; the specific burial rite, including posture and sexual dimorphism, are not found in the Pontic-Caspian but can be found among late Neolithic cultures in central Europe, e.g., the Tiszapolgár culture; local environmental change can explain the shift towards more mobile economies; the wild horse was regularly hunted in the TRB culture; and wheeled vehicles also appear in the TRB culture and do not require a Ukrainian or Russian origin. From a purely archaeological standpoint, the origins and dispersal of the Corded Ware culture is one of the pivotal (and still unresolved) issues of the IE homeland problem.

See also **Fatyanovo-Balanovo Culture**; **Indo-European Homeland**; **Kurgan Tradition**; **Middle Dnieper Culture**; **TRB Culture**. [J.P.M.]

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COSMOGONY

Although there is a variety of creation myths among the various IE-speaking peoples, there are also a sufficient number of common elements to suggest the existence of an underlying PIE myth or myths whose general structure can be at least partially recovered. The creation myths may be divided into two broad elements—a cosmogonic myth that explains the origins of both the physical and social worlds, and a "foundation" myth that is more directly associated with the origins of mankind (anthropogonic) or the establishment of specific peoples.

Cosmogonic Myth

The cosmogonic myth is centered on the dismemberment of a divine being—either anthropomorphic or bovine—and the creation of the universe out of its various elements. In the Old Norse *Grīmnismāl* (40–41), the giant Ȳmir is dissected so that the mountains are formed from his bones, heaven from his skull, the trees from his hair, etc. (cf. also the Old Irish *Tāin* which climaxes with the dismemberment of a mythic bull into the various features of the Irish landscape). This pattern of cosmogonic dissection is also seen in the Old Russian *Stič o golubinoj knig* ('Poem of the Dove King') where the Christian god's face yields the sun, his breast the moon, his eyes, the dawn, etc. The christianization of the myth is not limited to the Slavs but is also found in Celtic (BM MS 4783, folio 7a) and Germanic (Frisian Code of Emsig) sources where Adam's body is derived from elements of the physical universe. Greco-Roman traditions offer us Ovid's account of Atlas in the *Metamorphoses* (4.655–662) which relates how the giant's beard and hair become forests, his bones become stone, his hands the ridges of mountains, etc. The Middle Persian *Škend Gumānīg Wizār* (16.8–20) of the ninth century AD describes how the physical world derives from the body of the evil demon Kūnī, whose skin yields the sky, his flesh the earth, his bones provide the mountains, and his hair becomes the plants. The Old Indic *Puruṣasūkta* (*c* 900 BC) from the *R̥gveda* describes how Puruṣa, the (primeval) 'man', was divided so that his eye became the sun, his mouth the fire, his breath became the wind, his feet the earth, etc. Such evidence presents a relatively consistent set of alloforms between the anatomy of the host source and that of the physical world (or vice-versa). The most frequent correlations, or better, derivations, are the following: Flesh = Earth, Bone = Stone, Hair = Plants, Blood = Water (the sea, etc.), Eyes = Sun, Mind = Moon, Brain = Cloud, Head = Heaven, Breath = Wind.

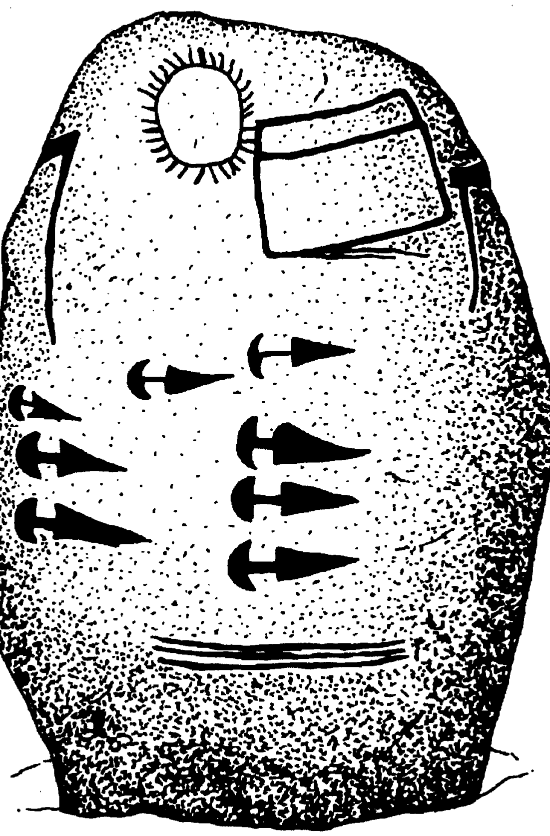
The underlying structure of the cosmogonical myth is reversible, i.e., it also yields an anthropogonic myth where the various sources speak of the constitution of the human body as its various parts are made from the elements cited above, e.g., wind becomes breath, plants become hair. This "atomization" of the human body, which is particularly evident in Greek biological tradition, also underlies IE approaches to medicine and related behavior, e.g., the cure for baldness often involves the application of the alloform of hair, i.e., plants, while there are widespread traditions that shorn hair should be planted in the ground (e.g., burial of the hair of the Roman Flāmen Diālis, the Avestan injunction to bury hair and nails in the ground, the Old Indic *Cūḍākarman* where the child's first tonsure is planted with a *kuśa* root, the Slavic folk custom of burying shorn hair).

This anatomical cosmology is also seen to extend into the social world since the divisions of the primeval man not only account for the physical world but also for the social divisions of society. The class divisions derive vertically from the anatomy of the initial victim. The head is the source of the priesthood and is the seat of thought, perception and speech while the warrior class, logically enough, is derived from the upper torso, in particular the arms, which provide strength, and the breast is the seat of courage. As the lower class of commoners is essentially defined by subsistence pursuits where fertility will be the overriding factor, it is the lower torso with both its sexual organs or its euphemistic symbols of the same, e.g., the knee, that provides this social division. In addition, just as the legs support the body, the herding-cultivating class is seen to support the higher social divisions of their own society.

It has been occasionally claimed that one can discern iconographic representation of the Indo-European creation myth in the stone stelae of the early Bronze Age in the Alpine region. Here there is a long tradition of expressing mythic concepts in stone at sites such as Val Camonica and some of the stelae, which depict a possible sunburst at the head and repeated elements such as weapons, have been interpreted, on grounds far more obvious to the proposer than others, as clear reflections of the original cosmogonic or Puruṣa figure.

Foundation Myth

Clearly related in structure is the other IE creation myth that comprises a primeval sacrifice of 'Twin' by his brother 'Man'. The myth is seen in Indo-Iranian, Germanic and Roman tradition. In the Indic sources the figures are Yama 'twin' and Manu 'man'. Yama is the first mortal to die and he establishes the otherworld; Manu is the ancestor of mankind, first king, originator of sacrifice and legendary composer of the *Manu-smr̥ti*, the Tradition or Law of Manu. Yama is seen as the sacrificial victim of his 'brother' Manu which sets creation in motion. The Iranian equivalent of Yama was Yama Xšaēta who, after sinning, is deprived of his royal halo (*xvarənah*) which is then dispersed to the patrons of the three social classes and who is cut in half by his brother. The Germanic myth, preserved best in Tacitus's *Germania* (2) records the origin of the Germans from a primeval Tuisto (from the root 'two' and often taken to mean 'twin' or perhaps 'bisexual') and his son Mannus 'man' (and cognate with OInd *Mánu*) who generate the three social classes of the Germans (as was also the case in Iran). The Ȳmir (< Gmc **Yumiyáz*) of the Norse creation myth noted above as an example of the cosmogonic myth also means 'twin' and is cognate, some would argue, with the



Cosmogony North Italian stela from Bagnolo which has been interpreted as a *puruṣa*-stela, e.g., the sun is placed in the highest registrar and is seen as an alloform for the "eye", the weapons have been claimed to represent the multi-armed nature of the primeval giant.

OInd *Yamá*. The familiar foundation legend of Rome also preserves elements of the same mythological structure. The city of Rome is established by two brothers Rōmulus and Remus, the latter of whom is despatched by his brother for violating a taboo and jumping the encircling ditch of the city or Rōmulus himself was dismembered by the senate as a tyrant. The sacrifice of a twin brother at the act of creation, although heavily "historicized" in Roman legend, may even retain a linguistic resonance since the very name of Remus may derive from a Proto-Latin **Yemos* or **Yemonos* 'twin' (and from the same root as OInd *Yamá* and ON *Ýmir*) whose initial was altered in association with the 'R' of Rōmulus. Finally, and with very little of the mythic structure intact, the medieval Irish explained the foundation of the capital of the province of Ulster, Emain Macha, with reference to a story concerning the birth of twins, OIr *emon* (and cognate with the Proto-Latin **Yemonos*). Although elements of this "foundation" myth may be found separate from the cosmogonic myth, there is sufficient evidence for positing a single PIE creation myth involving the sacrifice of a PIE *'Twin' and his subsequent dismemberment to bring about the world.

Cosmogony and Sacrifice

In both the cosmogonic myth and the foundation element of it, one of the central aspects is the notion of sacrifice (of a brother, giant, bovine, etc.). The relationship between sacrifice and cosmogony was not solely that of a primordial event but the entire act of sacrifice among the Indo-Europeans might be seen as a re-creation of the universe where elements were being continuously recycled. The continuity of the creative aspects of sacrifice is, for example, recorded by Tacitus (*Germania* 39) who describes how the ancient Semnones sacrificed a man on a fixed occasion where representatives of all their peoples had assembled in recollection or perhaps better, re-enactment, of the origins of their race. Similar practices may be found among other IE traditions where the victim sacrificed, e.g., the cow in ancient Rome or among the Persians, the horse in ancient India, would be anatomically dispersed in a pattern that reflected the prevailing models of cosmic or social partitioning of the universe. Sacrifice thus represents a creative re-enactment of the initial cosmic dismemberment of a victim and it helps restore the material stuff to the world

See also ANCESTOR GOD; COMPARATIVE MYTHOLOGY; COSMOLOGY; CREATOR; DIVINE TWINS; ESCHATOLOGY; HORSE; SACRIFICE; STELAE; WAR OF THE FOUNDATION. [J.P.M.]

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COSMOLOGY

Cosmology is the world view of a people, a system by which the constituent elements of their universe are related with one another. It is to be contrasted with cosmogony which concerns the origin of the universe itself or eschatology which describes the end of a universe. A clearly reconstructible cosmology of Proto-Indo-European eludes us although there are certain major widespread patterns that suggest elements, possibly conflicting, of early IE cosmological systems.

Polarity and Direction

The vocabulary of the various IE stocks relating to direction clearly suggests that the early Indo-Europeans (as well as their later successors) participated in the widespread partitioning of the universe into right and left. For the early Indo-Europeans, the right hand and right side (**deḱsi-nos/-u̯os/-teros*; **h₃regtos*) was associated with concepts of male, strength, health, straight, and other "positive" aspects. The associations are persistent both in PIE and in the later evolution of the various IE stocks, e.g., Lat *dexter* 'right; handy, dexterous, skilful; of good omen, favorable, propitious' or the semantic range of NE *right*. Even more recent formations would attract similar semantic bundles, e.g., OE *swīþ* 'strong,

mighty' but comparative *swīδre* 'right (hand)'. Conversely, the left (**laiu̯os*; **seui̯ós*; **skaiu̯ós*) was regarded as female, weaker, unhealthy, crooked, and an assortment of "negative" qualities, e.g., OIr *clē* 'left; malign, inauspicious, sinister, bad', Wels *chwith* 'left; strange; sad', Lat *sinister* 'left; wrong, perverse'. This dichotomy was not only lexical but also behavioral where the right side of a tent, house, table, etc., may be assigned to the male or the honored guests and the left side is regarded as inferior. Archaeologically, a number of Neolithic and later cultures of Europe and Asia (e.g., the Corded Ware and Bishkent cultures) mark the sex of the deceased by burying males on their right side and females on their left.

The reason for the dichotomization according to side is probably based on the anatomical universal which favors right-handedness. This system, however, has also crossed with the method of reckoning the cardinal directions among the early Indo-Europeans. The lexical evidence makes it clear that in IE culture one quite literally "oriented" oneself by facing the sun. In so doing one faced the rising sun in the east and hence the north would be on one's left side while the propitious right side faced south. This can be seen, for example, in Celtic (OIr *dess* 'right; south', Wels *dehau* 'right; south') and OInd *dákṣiṇa-* 'right; south'. Terms for north, however, are built on words for 'left', e.g., OIr *focla* 'north' from *clē* 'left; sinister, unpropitious', Wels *gogledd* 'north' from *cledd* 'left'; the Germanic words for 'north' (ON *norðr*, OE *norþ*, OHG *nord-an*) but Umb *nertru* 'left'.

Other systems of binary opposition are proposed in the cosmological schemes of Gamkrelidze and Ivanov who posit a system of contrasting categories. For example, they argue that all living things were classed as animate (animals) and inanimate (plants). The former was then divided into wild and "not-wild" animals; the "not-wild" were divided into those that spoke and were rational and those who weren't; the rational ones were divided into those that were terrestrial/mortal and those that were celestial/immortal, etc. An underlying binary system was, they argue, based on the IE social practice involving cross-cousin marriage where women were exchanged between two moieties. The actual evidence for such a marriage system, much less support for the explicit system of oppositions that they propose for PIE, is hardly conclusive.

Three Worlds

Another recurrent pattern observed in the early religious literature of a number of IE stocks, Greece and India in particular, suggests a physical tripartition of the universe. The basic pattern, according to Jean Haudry, is a universe consisting of three rotating skies, each marked by its own deities, its own color and social associations. Each realm marks out a specific sphere of influence which cannot be infringed upon by a different realm, e.g., in the *Iliad* Zeus, the Greek reflection of the PIE god of the diurnal sky, cannot extend his powers into the night. According to Haudry, one may posit an original system where the diurnal sky is the home of the PIE sky god (e.g., Lat Jūpiter, Grk Zeus, OInd Dyaus) and the associated color is white or, at least, bright. The night sky is the home of deities such as Grk Ouranos and the associated color is dark or black. The dawn and twilight provide the realm of the Lat Sāturnus, Grk Kronos, OInd Savitṛ, and the color here is red. The skies rotate around a common pole (*axis mundi*) whose reflection as a post, pillar or enormous tree is found across the various IE stocks. In their own treatment of IE cosmology, T. Gamkrelidze and V. Ivanov propose that all living things were grouped into three main zones about the "world tree", i.e., upper, middle and lower world.

The three skies and their deities, according to Haudry, are replicated in the generational myths of the Indo-Europeans, e.g., the "kingship in heaven" theme, which exhibit a succession of divinities ruling until the present generation (e.g., Greek Ouranos > Kronos > Zeus), the various schemes for the "ages of the world" found, in particular, in Greek (Hesiod where the cycle begins with the black night of Ouranos, followed by the red [Golden] age of Kronos, then the white [Silver] age of Zeus) and Indic tradition, the color-codes of the social classes in various IE societies, e.g., Germanic (*Rīgsþula*) where Jarl (noble) is of a white complexion, Karl (free farmer) is red and Þræll (slave) is black, Indo-Iranian (white = priest, red = warrior, dark = herder-cultivator).

Haudry has also argued that the diurnal cycle of day-twilight-night provided the early Indo-Europeans with a homology on which was also based their view of the time in general, e.g., the year was similarly conceived of in terms of a diurnal part, a twilight and a night, and this was extended to eschatology where all existence confronts a twilight and a night.

Three Functions

The most widely accepted cosmology of the Indo-Europeans is the "social" cosmology as elaborated by Georges Dumézil and his followers. Like Haudry's tripartite cosmic system, the central element of Dumézil's system is a tripartite division of the world, here seen as primarily social rather than physical. According to this system the earliest Indo-Europeans and their successors have inherited a mental template that naturally divides their social world into three basic spheres of activity: judicial-religious, defensive, and procreative, or, in terms of social roles, that of priests, warriors, and herder-cultivators. The system is expressed and elaborated from the level of high myth to folk-tale where the totality of society is invariably expressed as a union of these three social elements. The tripartition of the Dumézilian school is ideological and not necessarily practical, i.e., it does not require one to imagine a PIE society with well defined social classes or castes but rather it attributes to the speakers of the proto-language only a mental map of their universe.

See also COMPARATIVE MYTHOLOGY; COSMOGONY; ESCHATOLOGY; LEFT; RIGHT. [J.P.M.]

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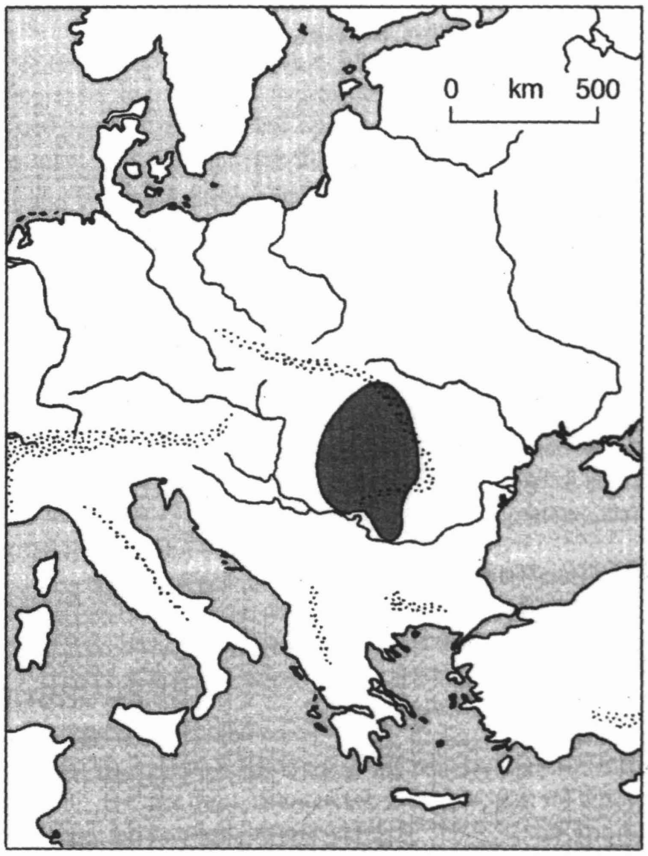
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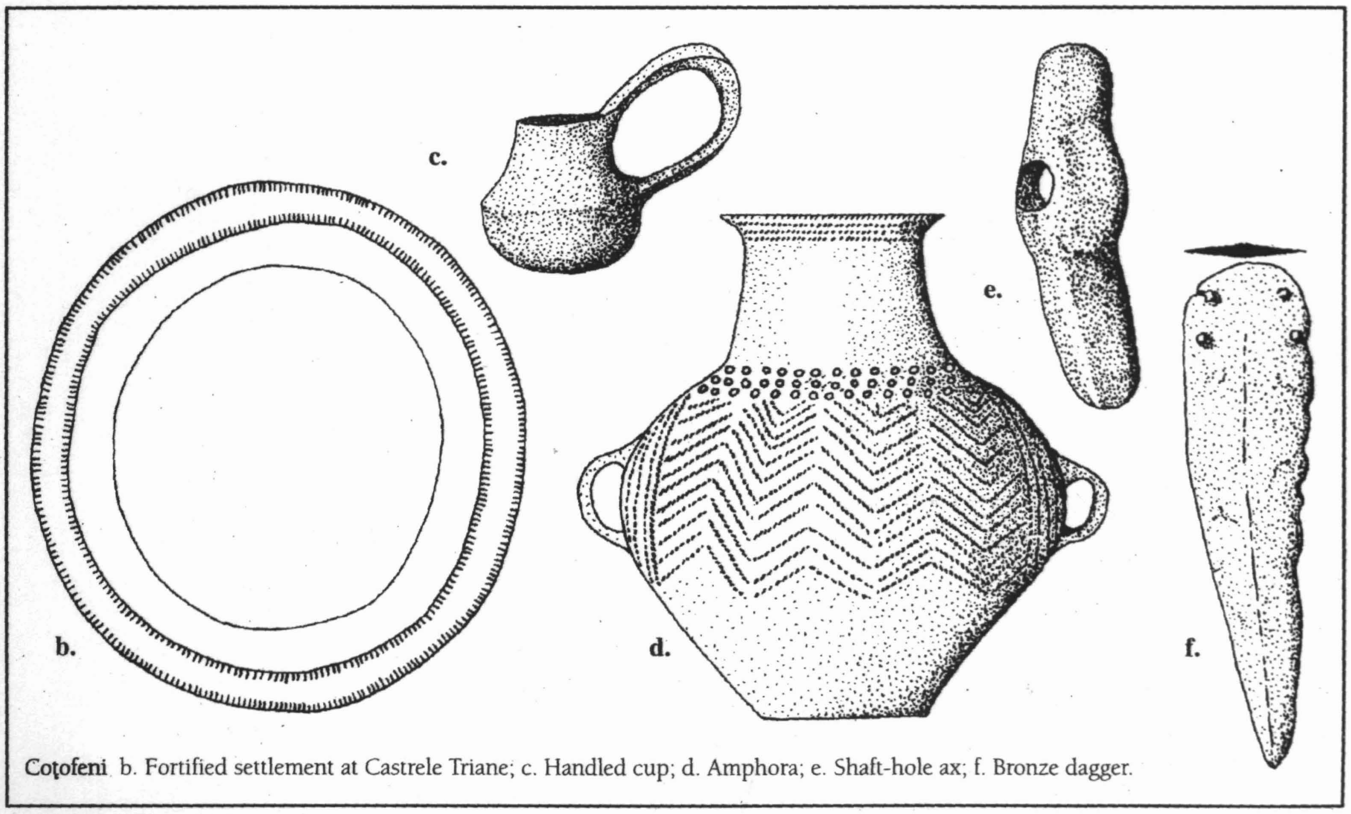
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COŢOFENI CULTURE

Coţofeni is an early Bronze Age culture (*c* 3300–2500 BC) of western Romania and adjacent parts of Serbia and Bulgaria. Sites are primarily to be found in the upland regions, the lower areas given over to other cultures. Variations in the amount of settlement debris and the presence of Coţofeni material in upland caves suggest that there was a mobile component to the society as well as a stable element that resided in hilltop sites, promontories, or settlements defended by concentric ditches. Dwellings range from small pit-dwellings to surface structures up to 8 m long. Rudimentary metallurgy existed with the production of arsenical bronzes (awls, daggers and ornaments) while tools continued to be fashioned of stone (axes) and flint, bone and antler. Marked similarities with the neighboring Usatovo culture have been observed in the production of metalwork, especially daggers, which also have parallels in the Aegean. There are some clay



Coţofeni a. Distribution of the Coţofeni culture.



Coţofeni b. Fortified settlement at Castrele Triane; c. Handled cup; d. Amphora; e. Shaft-hole ax; f. Bronze dagger.

figurines, both anthropomorphic and zoomorphic (oxen). The ceramics belong to the horizon of Balkan-Danubian wares which now see the proliferation of drinking vessels, both beakers and especially single-handled drinking cups. Painted and other decorated pottery also continued in the Coţofeni culture. Burials are infrequently encountered and may involve both inhumations and cremations and there is some evidence for the use of barrows over graves.

The origins of the Coţofeni culture have been sought in both local late Neolithic cultures and new elements (Cernavoda III) which in themselves are derived from the Pontic-steppe cultures. In the Kurgan model of IE expansions, the Coţofeni culture is seen to be an amalgam of native non-IE Balkan population with elements of the intrusive steppe cultures (barrows, some ceramics, arsenical bronzes). The culture is then seen to develop broader links with other Balkan-Danubian cultures, in particular Baden and Ezero, and more distantly with Troy.

See also **Baden Culture**; **Cernavoda Culture**; **Ezero Culture**; **Kurgan Tradition**. [J.P.M.]

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COUGH

$k^we h_a s$- 'cough'. [*IEW* 649 (*$*k^u\bar{a}s$-*); Buck 4.53]. MIr *cosachtach* 'act of coughing' (presupposing a **casacht* ~ **cosacht* 'cough'), Wels *pesychaf* 'cough', ON *hōsti* 'cough', *hōsta* 'cough' (vb.), OE *hwōsta* 'cough', *hwōsan* 'cough' (vb.), OHG *huosta* 'cough', Lith *kosulỹs* 'cough', *kósiu* 'cough' (vb.), Latv *kāsēju* 'cough' (vb.), OCS *kašĭlĭ* 'cough', Alb *kollë* (< *$*k^we h_a sleh_a$-*) 'cough', OInd *kāsate* 'coughs' (vb.), TochB *kosi* 'cough'. Though not found in Hittite, almost pan-IE in distribution. Certainly the PIE word for 'cough'.

?*pster- 'sneeze'. [*IEW* 846–847 (**pster-*); Wat 53 (**pster-*); Buck 4.54]. OIr *srēod* 'sneeze', Wels *ystrew* 'sneeze', Lat *sternuō* 'sneeze', Grk *πτάρνυμαι* 'sneeze', Arm *p'rngam* 'sneeze'. These words may be independent onomatopoeic creations. PIE status doubtful.

?*skeu- (or ***kseu-**) 'sneeze'. [*IEW* 953 (**skĕu-*); Buck 4.54]. Lith *skiaudžiu* 'sneeze', Latv *šķauju* 'sneeze', OInd *kṣáuti* 'sneezes'. Again there is a strong possibility of onomatopoeia here. PIE status doubtful.

[D.Q.A.]

COUNT *see* NUMBER

COUNTRY

$pl̥th_2$-u̯-ih$_a$- 'country, land (< the broad one)'. [*IEW* 833 (**pl̥tə-u̯ī*); cf. Wat 51–52 (**plat-*); GI 684 (*$*p^h elH$-*); Buck 12.71, 1.21]. MIr *Letha* (Brittany), Wels *Llydaw* (Brittany), OE *folde* 'land', Lith *plat-ùs* 'wide', Grk *Πλάταια* (place name), Arm *hoł* 'earth, country', Av *pərəθwī* 'surface', OInd *pr̥thivī́* 'earth'. With a different formation but similar meaning is OIr *lāthar* 'place'. From *$*pleth_2$-* 'broad and flat'. Distribution clearly suggests PIE status. In both OInd *Pr̥thivī́* and Celtic, e.g., Gaul *Litavi(s)*, the word for the land has been turned into that of a female goddess and suggests either a parallel development or reflection of an earlier IE concept of divinized land.

In most IE languages, the terms for 'country' are generally derived from such notions as 'place', e.g., Grk *χώρᾱ* 'space, place, country' or productive concepts such as 'land, earth, ground, soil' when used to express the surface on which one lives, e.g., Lat *terra* 'land', Lith *žẽmė* 'land'. At times a 'tract of land' is also employed, e.g., Lat *pāgus* or a circumscribed area, e.g., Lat *fīnēs* 'boundary', OInd *deśá-* 'region' or *janapadá-* (< *jána-* 'race' + *padá-* 'place'). More distantly related are OCS *polje* 'field' and Arm *hoł* 'earth, country'. Other creations are 'one's own country' which may be formed from compounds involving kinship terms such as Bret *mamvro* (< *mamm* 'mother' + *bro* 'country') or Grk *πατρίς*, Lat *patria*, OE *fæderēðel*, OHG *fathervodil*, Lith *tė́vynė*, Latv *tẽvija* ~ *tẽvzeme* 'fatherland'.

See also **Flat**. [A.D.V.]

COUSIN

No exclusive term can be reconstructed for PIE for any of the four different types of cousin ('mother's sister's child', 'father's brother's child', 'father's sister's child' and 'mother's brother's child'), nor to any subclass such as parallel- (in which the linking parents are of the same sex, i.e., two brothers or two sisters) or cross-cousins (the children of brothers and sisters) or patrilateral or matrilateral. If our inability to make such a reconstruction indicates a genuine absence of special terms, then we can probably exclude the Eskimo, Sudanese and Iroquois systems. This would suggest that PIE labelled these kin types with extensions of pre-existing terms and that it was most likely to have been of the Hawaiian, Crow or Omaha type, i.e., where 'brother', 'sister', 'son' or 'daughter' or some other term may have been "extended" to denote the cousins. There is some evidence that as the IE stocks developed, they did distinguish between parallel cousins but not between cross cousins. Evidence for this can be seen in Old Norse where *brœðrungr* designated the 'father's brother's son' but *systrungr* designated the 'son of mother's sister'; both cross-cousins (father's sister's son, mother's brother's son) were designated by the same term, *systkinabarn*. Similarly in Latin the 'father's brother's son' was *frāter patruēlis*, the 'mother's sister's son' was *frāter cōnsobrīnus* while both cross-cousins could be labelled *amitīnus*.

An older situation, also seen in Latin, was to extend the words for 'brother' and 'sister' to cousins, certainly to the children of the father's brother and possibly to other cousins as well. Thus 'father's brother's son' might be *frāter patruēlis*, *patruēlis* or simply *frāter*. In Greek the inherited word for 'brother' was almost everywhere replaced by *ἀδελφεός* but remained as 'member of a phratry, kinsman' (< *'cousin'). Likewise the inherited word for sister (*ἔορ*) is found once in

Hesychius and glossed as 'daughter of a cousin'. Other evidence that words for 'brother' and 'sister' were more widely applied than just to siblings is provided by such replacements for the inherited words as Grk *ἀδελφεός* 'brother', *ἀδελφ(ε)ή* 'sister' (< **sm̥-gʷelbhes-o/eh$_a$-* 'having the same womb'), Lat *(frāter) germānus* 'own brother', *(soror) germāna* 'own sister' (> Spanish *hermano* 'brother', *hermana* 'sister'), OIr *derbrāthair* 'brother' (< *'true brother'), *derbsiur* 'sister' (< *'true sister'), Alb *motër* (< **motrë* < **meh$_a$tr-eh$_a$-*) 'sister' (< *'maternal, i.e., uterine [sister)]'). The presence of the Old Persian adjectives *hamapitar-* 'having the same father' and *hamātar-* 'having the same mother' point in the same direction. As already noted, this extension of 'brother' and 'sister' to 'father's brother's son' and 'father's brother's daughter' respectively is certain in many IE stocks. As most of the historical data from which we derive our knowledge of Latin, Old Persian, etc., kinship terminologies were most interested in specifying paternal relatives, the lack of good examples of a similar extension to maternal cousins (or even to 'father's sister's son or daughter') may simply reflect accidental gaps in the record. Certainly those kinship types which do typically show extensions of 'brother' and 'sister' to cousins (Omaha, Crow, Iroquois) almost always include the children of the mother's sister along with the father's brother's (i.e., all parallel-cousins) in that extension. One might also note that the lack of clear evidence for separate cousin terms in PIE is one of the negative lines of argument against the proposition that PIE society practiced cross-cousin marriage.

See also KINSHIP; MARRIAGE. [M.E.H., D.Q.A.]

COVER

k̑el- 'conceal, cover'. [*IEW* 553–554 (**k̑el-*); Wat 28 (**kel-*); Buck 12.26]. OIr *ceilid* 'conceals, dissembles', Lat *cēlō* (with lengthened vocalism) 'conceal', *occulō* (< **ob-kelō*) 'cover, hide', ON *hylja* (zero-grade) 'to cover', OE *helan* 'to conceal', OHG *helan* 'to conceal', Goth *huljan* (zero-grade) 'to cover', Grk *καλύπτω* (zero-grade vocalism with labial extension, perhaps influenced by *κρύπτω* 'hide') 'cover'. Semantically, this set poses little difficulty and is reconstructible at least to the west and center of the IE world.

k̑em- 'cover'. [*IEW* 556–557 (**k̑em-*); BK 353 (**qʰ]am-/ *qʰ]əm-*)]. Late Lat *camīsia* 'linen-shirt, nightgown' (< Gaul?), ON *hamr* 'skin, slough', *hams* 'snake's slough; husk', OE *hama* 'dress, covering', *ham* 'undergarment', *hemeð* 'shirt', OInd *śāmūla-* 'thick woolen shirt', *śamī-* 'pod, legume'. The distribution of attestations would seem to assure PIE status.

(s)keu(h$_x$)- 'cover, wrap'. [*IEW* 951–953 (**(s)keu-*); Wat 60 (**(s)keu-*)]. As a verbal form this is only attested in OInd *skunāti* 'covers' where the meaning 'cover' may well be late and its earlier meanings: 'poke around, hunt around, tear' suggest that its status as a cognate is doubtful. There are, however, numerous nominal formations which are readily reconstructible to the proto-language suggesting that the underlying verbal root must be older. For example, OE *scēo* (< **skeuh$_x$o-*) '± cloud', *scuwa* (< **skuh$_x$on-*) 'shade, darkness; protection', OHG *scuwo* 'shadow', Arm *c'iw* (< **skeu(h$_x$)o-*) 'roof, cover'; Lat *ob-scūrus* (< **kuh$_x$-r-*) 'dark, obscure' (< 'covered'); **kuh$_x$-l-* 'cover; covered area': OIr *cūl* 'hind part, nape of neck', Wels *cil* 'corner, hind part', Lat *cūlus* 'bottom, buttocks', ON *skjōl* 'shelter, refuge', Lith *kẽvalas* 'skin, cover', Latv *čàula* 'skin, cover', Grk *σκύλος* 'pelt, skin'; **(s)keu-t-* 'skin, hide': Wels *cwd* 'scrotum', Lat *cutis* 'hide', ON *hūð* 'hide', OE *hȳd* 'hide' (> NE *hide*), OHG *hūt* 'hide', Lith *kutỹs* 'purse, money-belt', *kiáutas* 'case, cover', Grk *σκῦτος* 'hide, leather'.

(s)teg- 'cover'. [*IEW* 1013–1014 (**(s)teg-*); Wat 65 (**(s)teg-*); GI 49 (**(s)tʰek'-*); Buck 12.26; BK 135 (**t'aq'-/ *t'əq'-*)]. Lat *tegō* 'cover', ON *þekja* 'to cover, clothe', OE *þeccan* 'to cover' (> NE *thatch*), OHG *decchen* 'to cover', Lith *stíegiu* 'put on a thatch roof', Grk *στέγω* 'cover, protect', OInd *sthagayati* 'covers, hides'. The *-th-* in Old Indic is problematic and may point to a non-IE origin. Aside from this form, the cognate set is unproblematic and may be reconstructed to at least western and central IE with reasonable certainty.

u̯er- 'surround, cover, contain'. [*IEW* 1160–1162 (**u̯er-*); Wat 77 (**wer-*); GI 645 (**u̯er-*); Buck 12.26]. OIr *ferenn* (< **u̯er-eno-*) 'girdle, belt', Lat *aperiō* (< **ap-u̯er-i̯o-*) 'open, uncover', ON *verja* 'hinder, forbid', OE *werian* 'guard, hinder, forbid', OHG *wer(r)en* ~ *werien* 'hinder, forbid', Goth *warjan* 'hinder, forbid', Alb *varr* 'grave', Grk *ἔρυμαι* (< **u̯eru-*) 'protect', Hit *warrai-* 'come to aid', Av *aiwi-vərənvaiti* 'conceals', OInd *vr̥ṇóti* 'covers, surrounds'. The Greek form is problematic because of the absence of the expected initial digamma and an original prothetic vowel has been suggested, i.e., *ἐ-(ϝ)ερυ-*. In Germanic the meaning 'surround, cover' has shifted to 'hinder'. The Albanian meaning 'grave' may have developed from the raised mound of earth which normally covers a grave (cf. ON *urð* 'heap of stones, rubble').

See also BACK[1]; CLOTHING; ROOF; SHADOW; SKIN. [M.N.]

COW

gʷṓus (gen. ***gʷóus***) 'cow' (in both the English senses: 'adult female bovine' and 'bovine of any age or sex') (*Bos taurus*). [*IEW* 482–483 (**gᵘ̯ou-*); Wat 26 (**gʷou-*); GI 482–483 (**kʷʰu-*); Buck 3.20, 3.22, 3.23; BK 346 (**k'ʷuw-/ *k'ʷow-*)]. OIr *bō* 'cow', MWels *buch* 'cow', Umb (acc.) *bum* 'cow', Lat *bōs* 'cow' (though the initial *b-* rather than the expected **v-* may reflect the influence of some other Italic dialect), ON *kȳr* 'cow', OE *cū* 'cow' (> NE *cow*), OHG *chuo* 'cow', Latv *gùovs* 'cow', OCS *govędĭ* 'of cattle', *go-mŭno* 'threshing floor', perhaps Alb *ka* 'cow' (pl. *qe*) which would be regular from **gʷous*, pl. **gʷou̯es*, except for unexpected *k-* rather than **g-* (influenced by the PIE word for 'horn'?), Myc *qo-u-* 'cow', Grk *βοῦς* 'cow', Arm *kov*, HierLuv *wawa-* 'cow', Av *gāuš* 'cow', OPers *gāv* 'cow', Oss *qūg* ~ *ɣog* 'cow', OInd *gáu-* 'cow', TochA *ko* 'cow', TochB *keu* 'cow'; cf. the widespread derivative **gʷou̯i̯os* in Grk *τεσσαράβοιος* 'worth four cows', Arm *kogi* 'butter', Av *gavya-* 'pertaining to cows', OInd *gávya-* ~ *gavyá-* 'pertaining to cows', TochB *kewiye* 'butter'. Also of interest is the equation of Grk *ἑκατόμβη*

'sacrifice' (cf. OPers *θatagu-* place name), OInd *śatagvín-* 'consisting of a hundred cows', both reflecting a PIE **k̂m̥to(m)-gʷu̯-o-* and with elements reversed in Grk *Βουκάτιος* name of a month in Boeotia, Delphi, Aetolia, etc., OInd *gośatam* 'pertaining to a hundred cattle'. Widespread and old in IE. This word has variously been connected with Sumerian *gu₄* ~ *gud* 'bull' and/or Ancient Egyptian *gw* 'bull' under the assumption that the PIE word might be borrowed from some Near Eastern source or with Old Chinese **ŋəu* 'cow' with the possibility that the Chinese word might be borrowed from some IE source. Either suggestion is a possibility but neither is necessary and an onomatopoeic origin for this word in the various families cannot be entirely ruled out.

***h₁eĝh-** 'cow'. [*IEW* 7 (**aĝh-*); Buck 3.23; BK 365 (**ag-/*əg-*)]. OIr *ag* (< **aĝhes-*) 'cow', *ag allaid* 'stag' (< *'wild ox'), *āl* 'brood, litter', Wels *ael* 'brood, litter', *eilion* ~ *eilion* 'fallow deer; horses', Arm *ezn* 'cow', Av *azī-* 'giving milk', OInd *ahī-* 'cow'. This word is usually reconstructed as **h₂eĝh-* but such a reconstruction makes it impossible to include Arm *ezn* 'cow'. The Indo-Iranian forms are ambiguous as to whether the initial vowel was **h₁e-* or **h₂e-*; only the Celtic seems to require **h₂e-*. However, there is some precedent for an initial **e-* appearing as *a-* in Celtic, cf. OIr *aig* 'ice' from **i̯egi-*. As the word is attested at the margins of the IE world this strongly suggests PIE status.

***u̯ok̂éh₂-** 'cow'. [*IEW* 1111 (**u̯ăkā*); Wat 73 (**wak-*); Buck 3.23]. Lat *vacca* (with expressive gemination) 'cow', OInd *vaśā́* 'cow'. Another word whose attestations on the margins of the IE world would seem to guarantee PIE status. What, if any, was the exact semantic difference between this word and the previous two is impossible to recover. Though purely speculative, one might suggest 'heifer'.

***uk⁽ʷ⁾sén-** 'ox'. [*IEW* 1118 (**ukᵘsen-*); Wat 74 (**ukʷs-en-*); GI 483 (**ukʰᵒs-en-*); Buck 3.22]. OIr *os(s)* 'stag, cow' (transferred from the domesticated animal to the "corresponding" wild one), Wels *ych* 'ox', ON *oxi* 'ox', OE *oxa* 'ox' (> NE *ox*), OHG *oxa* 'ox', Goth *aúhsa* 'bull', Av *uxšan-* 'bull', OInd *ukṣán-* 'bull', TochB *okso* 'draft-ox'. Widespread and old in IE.

***tauros** 'aurochs; bull' (in its first meaning = *Bos primigenius*). [*IEW* 1083 (**təuro-s*); Wat 69 (**tauro-*); GI 439 (**tʰauro-*); Buck 3.21]. OIr *tarb* 'bull', Wels *tarw* 'bull', Gaul *tarvos* 'bull' (Celtic < metathesized **taru̯os*), Lat *taurus* 'bull', Umb (acc. pl.) *turuf* 'bulls', ON *þjórr* 'bull' (as if < **teuro-*, the vowel has been influenced by the Germanic descendants of **steuro-* 'large [domestic] animal'), OPrus *tauris* 'bison', Lith *taũras* 'aurochs; bull' (borrowed from Baltic is Estonian *tarvas* 'aurochs'), OCS *turŭ* 'aurochs; bull', Rus *tur* 'aurochs; mountain goat', Alb *tarok* ~ *taroç* 'bull', Grk *ταῦρος* 'bull', Khot *ttura-* 'mountain goat'. Widespread and old in IE. Only those stocks whose speakers remained in areas where *Bos primigenius* was to be found have retained the earlier meaning 'aurochs; bull'. One might note the similar concatenation of meanings in NE *boar* 'wild swine; adult male (domesticated) pig'. These words have often been taken to be related in some fashion to Arabic *twr*, Hebrew *šōr*, Akkadian *šūru*, all 'steer', whether because the PIE words were borrowed from Semitic, the Semitic words were borrowed from PIE, both languages borrowed from a third source, or the similarity is evidence of the ultimate genetic relationship of PIE and Semitic.

?*usr- 'aurochs'. Lat *ūrus* 'aurochs' (borrowed from Germanic according to Caesar, from Celtic according to Macrobius), ON *úrr* (gen. *úrar*) 'aurochs', Swed (dial.) *ure* 'ferocious bull', OE *ūr* 'aurochs, bison', OHG *ūro* ~ *ūrochso* 'aurochs', Goth *ūraz* (name of a rune) (all < Proto-Gmc **ūru-*, possibly from earlier **uzrū-*). Possibly borrowed from Germanic is Finnish *uros* 'male of an animal'. The Germanic (and perhaps also the Celtic) may be connected with Pashto *ūṣ* (< Proto-Indo-Iranian **uṣ̌ra-*?) 'camel', OInd *usrá-* 'bull, ox', *usrā́-* 'cow'. Not everyone agrees that the Germanic and Old Indic words belong together. The phonological match is good, but the morphological match is imperfect and the semantic match is likewise imperfect. (The Old Indic words are otherwise taken to be ultimately the same as *usrá-* 'bright, of the dawn' and *usrá-/usrā́-* 'adult bovine of either sex' was originally 'red cow'.) If we do take the Germanic and Indic words as evidence for a PIE **usró-/*usrú-* then it is worth noting that the early Germanic speakers, who knew both aurochs and cattle, restricted this word to the aurochs which might be an indication that they were closer to the PIE state of affairs in their assignment of meaning than the Old Indic speakers (and modern Swedish speakers) who were familiar only with domestic cattle. Generally this set is taken to be from **u̯es-* 'damp, moist' [*IEW* 1171–1172] and to have originally meant the 'inseminator'. But if the original reference was to the aurochs we might also think of **u̯es-* 'stab, cut' [*IEW* 1172] and the meaning 'the gorer' or the like.

However, the meaning of the Pashto cognate, if it belongs here, suggests the inclusion of another set of Indo-Iranian words: Av *uštra-* 'camel', OPers *uša-bāra-* 'camel-borne' (the OPers *uša-* may reflect either Proto-Iranian **uša-* or [probably also] **uštra-*), OInd *uṣṭár-* 'bull hitched to the plow', *úṣṭra-* 'bull' (only in Vedic; in later Indic 'camel'). The shift in meaning in Iranian and later in Indic may have been dictated by the need to name the 'camel' (coupled with the loss of the aurochs from their new environments) or the shift may been influenced by other Near Eastern languages with similar sounding words, e.g., Akkadian *utru* 'dromedary', Urartian *ulṭu* 'camel' (if these words are not ultimately borrowed from Iranian). However, the totality of the Indo-Iranian data suggests rather a meaning '± useful one' for **uštar-*, **uštra-* and a relationship with OHG *ustrī* 'industry', *ustinōn* 'to function'. If so, it is extremely unlikely that the Germanic words for 'aurochs' are related with this latter set at all.

Finally, if the long vowel in Proto-Germanic **ūru-* is secondary, for which there are some parallels, it is possible that it is related to Myc *wi-ri-no* 'ox-hide', Grk *(ϝ)ρῑνός* '(ox-)hide; shield'. If so, the chances are good that Germanic has preserved the original meaning and that the derivative in

Greek was semantically transferred to cattle. One might also include OInd *ulá-* ~ *ūlá-*, the designation for some wild animal. In the absence of any more definite meaning for the Indic words their possible inclusion must remain unsettled.

With regard to the possible semantic shift from 'aurochs' or 'cattle' to 'camel' in Iranian, it is very difficult to distinguish wild from domestic camel bones since there was very little if any selective breeding of the domestic variety. The camels referred to in Iranian are most likely some variety of the Bactrian camel (*Camelus bactrianus*). The earliest evidence for its domestication so far is camel dung from a settlement in central Iran (where it is presumed the animal was kept on site rather than hunted off-site) dating to the mid third millennium BC. Early IE populations passing through Iran would no doubt have encountered the camel and the animal is later found in significant numbers on sites of the Eurasiatic steppe. Camels are in northern Kazakhstan by about 1700–1200 BC and in the Ukraine by the tenth century BC.

??*u̯is- and/or ****ĝ(h)ombhros*** 'bison (*Bison bonasus*)'. [*IEW* 1134 (**u̯eis-*); Wat 75 (**weis-*); cf. GI 440]. For **u̯is-*: ON *visundr* 'bison', OE *we(o)send* 'bison', OHG *wisant* ~ *wisunt* ~ *wirunt* 'bison' (> NE *wisent*; Germanic apparently < **u̯ísonts*, gen. *u̯isn̥tós*; from Germanic comes Lat *bisōn*), OPrus *wis-sambris* 'bison'. The Germanic words appear to reflect an old participle meaning 'stinking' (from **u̯eis-* 'give off an unpleasant odor'; see also 'weasel') that presumably reflects the strong musky odor given off by adult males during the rutting season. The Old Prussian word is a compound with **wis-* as its first member and as its second member *-sambris* that reflects a pre-OPrus **zambra-*, matching Rus *zubr* 'bison' and similar words in other Slavic languages. (Lithuanian has *stum̃bras* 'bison' while Latvian has *stumbrs* ~ *sumbrs* ~ *sūbrs*; both the initial consonant, whether *s-* or *st-*, and the vowel *-u-* seem secondary though their exact explanation is uncertain.) The Old Prussian and Slavic would reflect a PIE **ĝ(h)ombhros* with no known root connections. This word may be the best candidate for the original (late?) IE designation for the 'bison', the Germanic word being a later word, originally a descriptive adjective, that replaced the earlier **ĝ(h)ombhros*.

?*domh$_x$i̯os 'one to be tamed; young bull'. [*IEW* 199–200 (**domi̯o-s*); GI 491 (**t'emH-*)]. Alb *dem* 'bull, steer', OInd *damya-* '(young bull) to be tamed'. Quite probably independent creations in Albanian and Indic. Cf. OIr *dam* 'bull', *dam allaid* 'deer' (= 'wild cow'), Grk *δαμάλης* 'young steer'.

?*loh$_a$po-/*leh$_a$peh$_a$- 'cow'. [cf. *IEW* 667]. Latv *luõps* 'cattle, livestock', Alb *lopë* 'cow'. Possible evidence for a dialect word of the center of the IE world. Although sometimes set here, OIr *lōeg* ~ *lāeg* ~ *loīg* 'calf' is more likely from **loigos* '± springer' and does not belong with the other words.

Wild Bovids

The primary form of wild cattle, the aurochs (*Bos primigenius*), is the ancestor of the world's domestic cattle and was known from Britain to the Pacific and south into Africa. The Pleistocene aurochs was very large and stood some 1.8 m tall at the shoulders. After the Ice Age, the beast became smaller but was still markedly different in appearance and disposition from Neolithic domestic cattle and on numerous sites dating to the Neolithic, aurochs remains are found alongside those of domestic cattle. Given its distribution, there is almost no place in Eurasia (the aurochs was well known in the region north of the Black Sea, the Balkans and in Anatolia where we find abundant evidence for the cultic significance of the aurochs at sites such as Çatal Hüyük) where early IE-speakers might have been situated where they did not know the aurochs and so there is no archaeological difficulty in reconstructing a PIE term for the animal (**tauros*).

Shifts in the meaning of the word from 'aurochs' to 'bull' could be motivated by the great size of the animal. Even in the Holocene the withers height of the aurochs bull was 1.7 m and that of the females was 1.5 m while the earliest domestic cows in Europe only measured c 1.25–1.3 m in height; hence the replacement of a word for an exceedingly large wild bovid by domestic bull could be easily motivated and could have occurred quite early in some regions. Although Irish preserves the word, there is no evidence for the aurochs in Ireland since the time of its initial human colonization and so it may have already meant 'bull' in Common Celtic if not earlier. Nevertheless, a reason to preserve the name of the animal elsewhere would have been easily motivated since it was widely hunted in the prehistoric period and continued to exist in many regions well into the historic period. There is, for example, a depiction of an aurochs hunt in a Hittite settlement on the upper Khabur river while a gold statuette of an aurochs is known from the Bronze Age Maykop burial north of the Caucasus. Much later the aurochs is referred to in the various Germanic law codes and the name of the aurochs occurs in nearly three hundred place names in Germany. The last European aurochsen were killed in the Middle Ages where, despite royal protection, they became extinct in France and Hungary by the thirteenth century, east Prussia by the fifteenth and the last recorded living aurochs (a female) was killed in Poland-Lithuania in 1617. The absence of a word for aurochs or its shift to either the domestic cow or another animal in India is predictable in that the corresponding Indic wild cattle, the *Bos namadicus*, does not appear to have survived much more recently than the earliest Neolithic (it is known from Baluchistan at about 6000 BC); it is widely regarded as the ancestor of the zebu or humped-back cattle (*Bos indicus*) of India.

The other wild bovid, the European bison or wisent (*Bison bonasus*), still exists although the Caucasian or mountain wisent has recently become extinct. The animal was easily distinguished from early domesticated cattle; it stood some 2.0 to 1.8 m high at the shoulder and could weigh up to 1000 kg. Its range would appear to have extended from western and southern Europe across to Russia and the north Caucasus. Since its distribution was confined largely to those areas where the Baltic, Slavic, Germanic, and Iranian (in the

form of Ossetic in the northern Caucasus) languages are spoken, it is not surprising that no other tradition has a word for the bison. A Celtic cognate would not be impossible since although the animal was unknown in Ireland it did not become extinct in Britain until the twelfth century and in France until the eleventh century; however, we have no evidence for the word. The bison was hunted to extinction in Germany in 1755 (it is mentioned in the *Nibelungenlied* and recorded in some sixty-two place names in Germany) and in Hungary in 1790 and survives naturally only in Poland as the north Caucasian herds were killed off in the 1920s. The name for the 'bison' in Ossetic, in any case a relatively recent language immigrant into the Caucasus, has no relationship with either **u̯is-* or **ĝ(h)ombhros*. There is no evidence in the past that the European bison was domesticated and hence it is less likely that its name would have "crossed" with that of a domestic animal (as with the aurochs). Today, European bisons number in the several thousands and are kept in more than two hundred breeding centers over the world. There is also, of course, an Indian buffalo (*Bubalus bubalus*) which was native to the subcontinent and was domesticated, reputedly as early as the sixth millennium BC. This animal, which only spread westwards in the Middle Ages, is understandably without linguistic cognates in IE.

Although of no demonstrable IE antiquity, mention should also be made of the water buffalo, specifically of the Indian wild buffalo (*Bubalus arnee*), whose native range extended from at least India westwards to Mesopotamia and thus included later IE-speaking territories of India, Afghanistan and Iran. The animal was domesticated by the third millennium BC and is often depicted on the seals of both the Harappan culture (Indus Valley Civilization) and of Mesopotamia. It spread north into Russia but it was generally not until the Middle Ages that it was imported through southern Europe.

Domestic Bovids

Domestication of cattle began during the transition to the Neolithic economy, appearing earliest in Anatolia and Greece in the seventh millennium BC and subsequently throughout the rest of Europe, reaching northern and western Europe in the centuries before 4000 BC. Domestic cattle are also found by the sixth millennium BC north of the Caucasus as they spread through the steppe and forest-steppe regions or were there locally domesticated from the native aurochs. Domestic cattle appear at a similar date in Central Asia. The domestic zebu or hump-backed cattle (*Bos Indicus*) appears in Baluchistan by the fourth millennium BC and its bones and its depictions on seals are regularly recovered from sites of the Harappan culture.

Cattle were certainly exploited for meat (hides, and their bones and horns for tools) and by the end of the Neolithic they also served as traction animals for pulling plows and wheeled vehicles. Castration is argued to have begun at least by the middle Neolithic, e.g., some 20 to 25% of the male cattle recovered from a TRB site (*c* 3900–3100 BC) appear to have been castrated.

Whether cattle were also exploited for their milk in the early Neolithic is hotly debated. Some suggest that the age-slaughter pattern of Neolithic cattle coupled with the existence of clay objects that may have served as strainers for dairy products indicate an early Neolithic date for a dairy economy. Others believe that cattle dairying (as opposed to milking goats or ewes) was not introduced until the end of the Neolithic, or possibly later, and dispute conclusions drawn from the age-slaughter patterns that indicate high calf mortality.

Cattle and Milk in Indo-European Belief

Irrespective of whether the cow was associated with milk during the PIE period, a number of IE traditions place great emphasis on a mythical cow that provides enormous quantities of milk. In Old Indic tradition it is the Kāmadhenu (or Surabhi), the wish-fulfilling cow who has been compared to Auðumla, the cosmic cow of Old Norse tradition whose udders provide rivers of milk and the Welsh Fuwch Gyfeilioru which also produced vast quantities of milk which had healing powers. Such comparisons may well be generic but the importance of cattle among the IE-speaking peoples is emphasized not only by those lexical items related directly to the animal, but also terms for the stomachs of ruminants (**u̯enVstr-* '(ab)omasum', **reumn-* 'rumen').

Cattle Sacrifice

Cattle were also employed in sacrifices among many Indo-European peoples and there is some lexical residue of this in **k̂m̥to(m)-gʷu̯o-* 'hundred-cattle (sacrifice)': Grk ***ἑκατομβή*** 'sacrifice (of a hundred cows)', OPers ***θ****atagu-* place name, OInd *śatagvín-* 'consisting of a hundred cows', and transposed as **gʷou-k̂m̥to-* 'cattle-hundred (sacrifice)': Grk ***Βουκάτιος*** 'name of month (associated with cattle sacrifice)', OInd *gośatam* 'of a hundred cattle'. This compound is confined to Greek and Indo-Iranian and is best considered a later, dialectally restricted word. The terms indicate specifically a sacrifice only in Greek and even by the time of Homer the *hecatomb* had lost its etymological force, e.g., in the *Odyssey* (3.6-8), only eighty-one bulls are sacrificed and in the *Iliad* (23.146) the *hecatomb* consists entirely of fifty rams.

While the sacrifice of cattle is so widespread as to be almost universal wherever domesticated cattle might be found in antiquity, there are a number of parallel rituals among different IE stocks that suggest the possibility of earlier inherited behavior. Both the Romans and the early Indians, for example, maintained the sacrifice of a pregnant cow. The Roman *Fordicīdia* involved the sacrifice of a *forda bove* 'pregnant cow' to Tellūs, the goddess of the earth. Here the two were killed and the embryo removed to be burnt separately from the cow which would provide the main sacrifice. Similarly, in ancient India the priests sacrificed the *aṣṭāpadī* 'the cow with eight feet', i.e., a pregnant cow, and similarly, the embryo was removed, here offered in a supplementary rite to the Maruts while the main sacrifice of the cow was presented to the Earth.

Rome, Greece and India also all present evidence of triple sacrifices which involve a cow or bull, evidence which is generally interpreted within the approach of Georges Dumézil as a trifunctional sacrifice. Hence in the Roman *suovetaurilia* (pig-sheep-bull) sacrifice, the bull was offered to Mārs. In the Greek *τριττύς*, the sacrifice involves a ram (*κάπρος*), a bull (*ταῦρος*) and a boar (*κρῑός*). In the Old Indic *sautrāmaṇī*, the sacrifice comprised a ram, bull and a he-goat, the bull being offered to Indra, the god of war. Cross comparisons suggest that the bull (along with the horse) were the animals most appropriately sacrificed to or on behalf of the warrior function in IE society while the female cow is more obviously to be associated with the concept of fecundity.

One obvious context for the sacrifice of cattle is in association with burials. In the Yamna culture and more frequently in the Catacomb culture of the east European steppe, remains of cattle are found associated with burials (though far less frequently than sheep remains). One of the recurrent practices is the deposition of the skull and forelegs (head and hooves) of an individual which may have either represented remains of a funeral feast or have been mounted in an upright position, the bovine equivalent of the "golden fleece". Cattle burials are also encountered in northern Europe where the burial of a pair of oxen has often been interpreted as evidence for a draught team of a plow or wagon.

Another aspect of cattle sacrifice is associated with the IE creation myth. It has been suggested that the primeval myth of the PIE community involved the sacrifice of both a human, specifically a 'twin', and a bovine (ox or cow), out of which both the material world and the social edifice of IE society were formed. In the *R̥gveda* (10.90), the sacrifice is made of Puruṣa, whose name is explained as a compound of OInd *pú-* 'man' and *vr̥ṣa-* 'bull', the two combined into a single name, while in the later *Śatapatha Brāhmaṇa* (1.1.4), Manāvī and a bull are sacrificed together. Although the story is not to be be found in detail in the *Avesta* due to Zaraθuštra's excision of cattle sacrifice from his religion, it does emerge in the *Greater Bundahišn* where Gayōmart and an ox are the sacrificial victims. In European traditions, the role of the ox is supplemental rather than critical to the story, e.g., the Old Norse myth of creation where the first bovine Auðumla nourishes the giant Ÿmir before he is sacrificed and his body rendered into the parts of the physical world. More tenuously, Bruce Lincoln suggests that the nourishing by a wolf of Rōmulus and Remus, the latter being the 'twin' who is sacrificed in the foundation story of Rome, is a transposition of the earlier IE version involving a cow which lacked the necessary valence for early Romans. Finally, he also suggests that the final battle of bulls which concludes the early Irish *Tāin* is a reflex of the earlier myth: here the Connacht and Ulster bulls fight and Bricriu is killed along with the Connacht bull whose body-parts are strewn cosmogonically across Ireland.

Cattle Raid

Many of the IE stocks preserve traditions of cattle raiding. In some cases, these are almost central to their epic literature, e.g., in early Ireland the *tāna* 'cattle raids' were a recognized narrative category and in a society where wealth was reckoned in cattle, cattle-rustling was regarded as the most appropriate activity for young male warriors. That the practice of cattle-raiding might be earlier and postulated for PIE itself rests on several bodies of evidence. There are a number of correspondences among the various IE stocks for cattle-stealing that are built on the verb 'to drive': OIr *tāin* (< **to-ag̑-no-*) *bō* 'cattle raid', Lat *bovēs agere* 'to drive or raid for cattle', Av *gąm varətąm az-* 'drive off cattle (as) booty'.

Another source of information concerning cattle stealing derives from the structure of what is generally described as the IE dragon-slaying myth which Bruce Lincoln has suggested was also the myth of the first IE cattle-raid. This myth is best reflected in Indo-Iranian tradition but as elements have been discerned in the traditions of other IE stocks, it has been projected back into the PIE past. The underlying structure describes how a warrior-hero by the name of 'Third' (**Tritos*) sets out with the assistance of the warrior god to recover cattle that had been stolen from the Aryan people by a foreigner. In order to recover the cattle, **Tritos* must fight and kill a three-headed serpent, after which he returns with the cattle. In the *R̥gveda* (10.8) the hero is Trita who, with the assistance of the war god Indra, kills the three-headed (*tri-śīrṣāṇam*) opponent Viśvarūpa who is described as a serpent (*ahi*). The Avestan (Yast 15) version involves Θraētaona, the 'son of the Third', who with the help of the storm god Vāyu defeats the three-headed (*θri-kamərədəm*) serpent opponent (Aži Dahāka). Here the spoils of his raid are described as women rather than cattle. But in Greek mythology, the raid of Hēraklēs (according to Hesiod) is against the enemy Gēryōn who has carried off cattle and who is described as three-headed (*τρι-κέφαλος*) and, being descended from the Medūsa whose hair was formed of writhing snakes, might also be associated with a serpent. Bruce Lincoln suggests that vestiges of the myth are also retained in Germanic tradition, e.g., where the hero Hymir, with the aid of the war god Þōrr employs an ox head to capture the Miðgarð-serpent, and less clearly traces are discerned also in Hittite myth.

The cattle-raid myth is seen as a charter for the behavior of the warrior, justifying cattle-raiding in general where the raid is not simply to amass more cattle (or wealth) but to "recover" what the Aryan (or earlier IE) community was unjustly deprived of. In the idealized world view of the early Indo-Iranians, according to Lincoln, the purpose of the cattle-raid was for the warrior class to recover cattle which were to be given to the priest who would sacrifice the cattle (a re-enactment of the cosmogonical first sacrifice) to celestial gods who awarded cattle to the Aryan people. Comparable mythic structures concerning both the creation of the world from cattle and the raiding for cattle can also be found among certain African tribes and Lincoln suggests that their

similarities may be explained by the common cultural ecology of cattle-raising people.

See also **Abdomen**; **Barren**; **Castrate**; **Cosmogony**; **Male**; **Mammals**; **Milk**; **Sacrifice**; **Three-Headed Monster**; **Wagon**; **War God**; **Yoke**. [D.Q.A., J.P.M.]

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CRAB *see* SHELLFISH

CRAFT, CRAFTSMAN

dhabhros 'craftsman'. [*IEW* 233–234 (**dhabh-ro-s*); Wat 12-13 (**dhabh-ro-*); Buck 9.42; BK 71 (**dab-/*dəb-*)]. Lat *faber* 'workman, artificer, smith', Arm *darbin* 'smith'. From **dhabh-* 'put together', cf. OE *ge-dæfte* 'mild, gentle' (< *'fitting, becoming') (> NE *daft*). Though attested in only two stocks the geographical distribution of those attestations strongly suggests PIE status.

kerdos 'craft'. [*IEW* 579 (**kerd-*); Wat 30 (**kerd-*); BK 210 (**t̲ɬ[^{h}]ar^y-at'-/*t̲ɬ[^{h}]ər^y-at'-*)]. OIr *cerd* 'craftsman, artisan (usually gold- and silversmith)', Wels *cerdd* 'song, poem; craft, art', Grk *κέρδος* 'gain, profit', (pl.) 'cunning arts, craft' (borrowed > Lat *cerdō* 'workman of the lowest class'). A putative PIE **kerdeh$_a$-* 'craftsman' is known only from Old Irish and thus has no particular claim on PIE antiquity. However, the intersection of 'craft', 'poetry', and 'profit' in the form of **kérdos* is clearly of PIE age.

tek̂s-(t)or/n- 'one who fabricates (cloth, wood, etc.)'. [*IEW* 1058–1059 (**tek̂þ-tor-*); GI 611 (**t^{h}ek̂^{h}s-*); Wat 69 (**teks-*); Buck 6.33; BK 91 (**t[^{h}]ak[^{h}]-/*t[^{h}]ək[^{h}]*)]. Lat *textor* 'weaver', Grk *τέκτων* (rebuilt from **teksōn*) 'carpenter, artisan', Av *tašan-* 'creator', OInd *tákṣan-* 'carpenter'. Sufficiently widespread to be strongly suggestive of PIE status. From **tek̂s-* 'fabricate'.

One of the characteristics of agricultural or Neolithic societies is the emergence of craft specialists. These are people who engage in various degrees in the production of some commodity which can be exchanged for goods, particularly subsistence goods, since a certain amount of time expended by the craft specialist will remove him or her from the subsistence economy. Evidence for craft specialists before the emergence of written records such as the Linear B tablets which list the names of a variety of craft workers is largely circumstantial. The traditional areas where archaeologists posit the existence of some specialist is in the manufacture of pottery, especially technically demanding ceramics such as kiln-fired painted wares as known from southeast Europe and central Asia where there is also evidence of potters' workshops in settlements. Other workshops include those for manufacturing stone and bone tools. With the emergence of metallurgy, both the extraction of copper by miners (attested in the Neolithic in the Balkans and across Eurasia by the early Bronze Age) and the casting of copper and early bronze implements also required specialists and their presence appears to be indicated in metal-working tools, for example, those which accompany burials in cultures such as the Catacomb culture of the Pontic steppe. By the fourth millennium BC we have good reason to posit the wheelwright or wagon-builder as a specialized craftsman.

The underlying concept behind the several reconstructible words for 'craftsman' in IE seems to vary. Since **dhabhros* derives from a meaning 'put together', it seems more likely that this described a carpenter or, in the British sense 'joiner', than a 'smith' although that meaning is found in the cognates of some of the IE stocks. The combination of 'smith' and 'poet' seen in the Celtic reflexes of **kerdeh$_a$-* may be explained by the frequent metaphor of the poet as one who 'forges' words together into verse. PIE **tek̂s-(t)or/n-* combines the notion of 'weaver' with that of 'builder' which may be explained by the widespread use of wattling in the construction of houses. Despite the evidence for potters in the archaeological record, there does not seem to be a reconstructible term for this craft although the third word is also associated with **tek̂s-t-eh$_a$-* 'plate, bowl', here perhaps originally one carved out of wood.

See also **Build**; **Craft God**; **Tool**. [D.Q.A., J.P.M.]

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CRAFT GOD

Deities specifically concerned with particular craft specializations may be expected in any ideological system whose people have achieved an appropriate level of social complexity. Among many peoples of the world, for example, a smith deity or divine beings particularly associated with the crafts of metalworking, are to be expected and such divinities are predictably found among the various IE stocks (e.g., the Irish Goibniu, Welsh Gofann, Latin Vulcan, Greek Hēphaistos). In some stocks, Celtic, for example, the prominence of the craftsmen was very high where the *aes dāno*, itinerant craftsmen, were protected by law, and Irish tales emphasize the craftsmanship abilities of their heroes. Similarly, in Indic mythology the deities concerned with the fashioning of special weapons, e.g., Tváṣṭṛ and also Viśvakarman 'all accomplishing', are regarded as primeval creators (cf. Grk Hēphaistos and the mortal Germanic Weland). Nevertheless, despite our ability to reconstruct several terms for metals to PIE, there is no widespread lexical correspondence upon which one might posit the existence of a specific craft deity among the speakers of the proto-language.

In the absence of lexical evidence for craft deities, it might be suggested that there existed structural evidence for such deities in PIE. The Dumézilian reconstruction of IE ideology envisages a mental template which divides the social world into three "functions": judicial-religious, defensive, and procreative, which may be translated into three social roles: priests, warriors, and herder-cultivators. In the establishment of this system it was observed that various IE traditions exhibited such a social tripartition only if one excluded evidence for a fourth class. In Varro's *De Lingua Latina*, the IE social classes of officials, priesthood, military, and agriculturalists are all reckoned but alongside them are also the artisans. According to Strabo, the Athenians were divided by Ion into *ἱεροποιοί* 'priests', *φύλακες* 'guards', and *γεωργοί* 'farmers' with a fourth class of *δημιουργοί* 'artisans', a system also embraced by Plato in his *Republic*. In ancient Iran, the "canonical IE" classes (*aθarman* 'fire priest', *raθaēštar* 'chariot-fighter' and *vāstryō-fšuyant* 'shepherd-cattle-man') were followed by the *huitiš* 'artisan'.

In general, the occasional presence of a fourth class of artisans has been regarded as a later extension to the original three social divisions reconstructed to PIE among later IE groups whose social and economic complexity would naturally have demanded such divisions. Already by the Bronze Age, for example, the Greeks had developed a palace economy in which a wide variety of artisans (potters, metal workers, chariot-builders, ship-builders, weavers, etc.) were an integral part of the Greek economy, a situation well attested in the Linear B tablets. From an archaeological perspective, the earliest appearance of craft specialization may have been considerably earlier. During the Neolithic, for example, specialized areas for the manufacture of pottery, figurines, bone objects, and other products are encountered in southeastern Europe as well as the mining and processing of copper. In the early Bronze Age there is evidence for the materials associated with the production of metal artifacts recovered from burials that suggests specialized bronze-smiths. It is in fact far easier to postulate the existence of artisans from the archaeological record than it is to propose the existence of priests. Nevertheless, the evidence for social, or at least, ideological segmentation of society is far stronger for the traditional tripartite than some quadrapartite system.

Nick Allen, however, has suggested the existence of a "Fourth Function" both because such structures can be found in other "segmentary" ideological systems and also because there would be a need to devise some form of category that would comprise all those "functions" that otherwise lay outside the three canonical functions of society. Although he does not explicitly assign craft specialists to such a "function", their very existence in the social world of the early Indo-Europeans might argue for some resonance in the ideological constructs of the various IE stocks if not PIE itself.

See also Comparative Mythology; Creator; Smith God.

[J.P.M.]

Further Reading

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CRANE

***ger-** 'crane'. [*IEW* 383–384 (**ger-*); Wat 20 (**gerə-*); GI 457 (**k'er-*); BK 290 (**k'ur-/*k'or-*)]. Wels *garan* 'crane', Gaul *tri-garanos* 'three-cranes', Lat *grūs* 'crane', OE *cran* 'crane' (> NE *crane*), OHG *kranuh* 'crane', OPrus *gerwe* 'crane', Lith *gérvė* 'crane', Latv *dzērve* 'crane', Rus *žeravlĭ* 'crane, goose', Grk *γέρανος* 'crane', Arm *krunk* 'crane' (also *grē* 'crane' which may be a loan from a neighboring language), Oss *zyrnæg* 'crane'. No term of IE origin exists in Old Indic where the terms *hurara-* and *puṣkara-* are commonly employed although the root **ger-* does appear in OInd *járate* 'shout hoarsely'. The root **ger-* is clearly the PIE term for this bird with attestation in six to eight stocks, a situation matched only by the cognates for 'goose'.

The crane is a large-bodied bird, up to a meter and a half tall; it is attracted to bogs and wooded areas. Cranes are frequently confused with storks and herons, and ancient literature reveals these errors which are still made today. Cranes were considered gregarious, affectionate with their young, but are also known to be contentious. The crane is widely distributed all over the world.

The crane is also the subject of an IE narrative complex involving a battle between cranes and a (non-Aryan?) people. The tale is reflected in the traditions of five stocks (Latin, Greek, Armenian, Iranian, Indic) although it has been clearly borrowed among some of them. The basic motif in the west is found in Greek tradition where Homer (*Iliad* 3.6) relates how cranes slaughtered pygmies, a motif that was subsequently picked up and elaborated on frequently in Latin literature. Under Greek influence we also have a fifth-century Armenian account of how pygmies fight with cranes who are competing for the produce of their fields. The Middle Persian *Greater Bundahišn* relates how a large bird, the *čamrūs*, devastates the fields of the non-Aryans while the OInd *garuḍa* attacks and devours a non-Aryan people, the Kirātas (cf. the *Śabdakalpadruma* where the *garuḍa* is employed to define *kirātāśin-* 'Kirātas-eater'). Although not fully cognate, both the PIE word for 'crane' and OInd *garuḍa* share the same root. The Old Indic bird shares two other behavioral similarities with that of the Greek 'crane': it is known to devour snakes and it is associated with precious metals (in Greek tradition a stone regurgitated by a crane becomes a touch-stone for gold) or stones (emeralds in Indic tradition). On the basis primarily of Greek and Indo-Iranian, it might be suggested that in late IE there existed a motif in which a non-Aryan people, set at the periphery of the world, were bested by man-eating cranes who are also associated with the eating of snakes and the discovery of precious metals and/or stones.

One further association between the crane and IE mythology involves the interpretation of the Paris Altar, a stone relief

from Gaul that depicts the Celtic god Esus cutting a tree and then a bull with three cranes (*tarvos trigaranus*) which has been linked to a Vedic account of how Indra slew a three-headed monster and was assisted by a woodcutter who hacked off the three heads. Out of the three stumps flew three birds (identified in the Indic version as a woodcock, partridge and sparrow).

See also BIRDS. [J.A.C.G.]

Further Reading

Greppin, J. (1976) Skt *Garuda*, Gk *γέρανος*: The battle of the cranes. *JIES* 4, 233–243.

CRAWL

serp- 'crawl'. [*IEW* 912 (**serp-*); Wat 58 (**serp-*); GI 445 (**serp^h-*); Buck 10.41]. Lat *serpō* 'crawl', Grk *ἕρπω* 'crawl', OInd *sárpati* 'crawls'. Cf. Lat *serpēns* 'snake', Alb *gjarpër* 'snake', (pl.) *shtërpinj* 'vermin' (both < **serpeno-*), OInd *sarpá-* 'snake'. This seems to have been the usual verb for 'crawl (on one's belly)', hence the derivatives with the meaning 'snake'. Widespread and old in IE.

rēp- 'crawl'. [*IEW* 865 (**rep-*); Wat 54 (**rēp-*); Buck 10.41]. Lat *rēpō* 'crawl, go on all fours', OPrus *rīpaiti* 'follow', Lith *rėplióti* 'crawl, go on all fours', Latv *rāpât* 'crawl, go on all fours'. Unlike **serp-*, this word seems to have focused on crawling on hands and knees rather than crawling on one's belly. Late word of the IE northwest.

(t)sel- 'sneak up on, crawl up on'. [*IEW* 900 (**sel-*); GI 129]. Lith *selù* ~ *sėlinu* 'sneak, prowl, step softly', Arm *solim* (< **t-sol-?*) 'crawl', Av *srvant-* 'crawling', OInd *tsárati* 'creeps up on, sneaks', *tsáru-* 'crawling animal'. Cf. OIr *selige* (*DIL seilche*) (< **selekįo-*) 'turtle; snail', NIr *seilide* (< **selņtī-*) 'snail', Alb *shligë* 'snake'. Though not attested in many stocks, the geography of the attestations argues for PIE status. The initial **t-* may be simply the first part of a rare PIE initial consonant-cluster or the remnant of a prefix.

See also SNAKE. [D.Q.A.]

CRAYFISH *see* SHELLFISH

CREATOR

deh$_1$ter- 'creator'. [*IEW* 237 (**dhē-tēr*); BK 70 (**diy-/ *dey-*)]. Lat *con-ditor* 'founder', OCS *dětelĭ* 'doer', Grk *θετήρ* 'founder', Av *dātar-* 'creator', OInd *dhātár-* 'founder'. From **dheh$_1$-* 'set'. The root is widespread and the derivation so common that these terms are likely to be independent creations in each of their stocks.

tųr̥k̑-ter- 'creator (< *artificer < *cutter)'. [*IEW* 1102]. Av *θwōrəštar-* 'creator', OInd *Tváṣṭā* (< **Tvárṣṭar*) 'name of creator deity'. As a deity, this term is entirely confined to the Indo-Iranian superstock although it is commonly derived from the widespread root **tųerk̑-* 'cut'. The Indic deity *Tváṣṭr̥* is prominent in the *R̥gveda* as the artificer of the gods who, among other things, fashioned the *vájra* of Indra by which he killed the demon Vr̥tra. He is more than a craft god, however, as he begets Triśiras, the 'three-headed one', who is prominent in one of the myths found widely among the IE stocks.

See also ANCESTOR GOD; COSMOLOGY; GOD; THREE-HEADED MONSTER. [E.C.P., J.P.M.]

Further Reading

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CRIME

h$_{2/3}$ųergh- '± commit a crime'. [cf. *IEW* 1154–1155 (**ųer-ĝh-*), 1181 (**ųreg-*); Wat 77 (**wergh-*); GI 415; Puhvel 3:401–402]. ON *vargr* 'felon, criminal' (> metaphorically also 'wolf'), OE (adj.) *wearg* 'evil, malignant, accursed', (noun) 'villain, felon, criminal; monster, malign being' (cf. *wiergan* [as if < **h$_{2/3}$ųorgheįe/o-*] 'curse; do evil'), OSax *warag* '± accursed' (epithet of Judas; cf. *gi-waragean* 'punish [a criminal]'), OHG *warg* 'devil; criminal' (cf. *fer-wergen* 'curse'), MHG *warc* 'monster', Goth *launa-wargs* 'unthankful', *gawargeins* 'damnation', *wargiþa* 'judgment, condemnation', *ga-wargjan* 'condemn', OPrus *wargs* 'evil', *wargan* (noun) 'evil', Lith *var̃gas* 'hardship, misery', Latv *vàrgs* 'sick, suffering', OCS *vragŭ* 'enemy', Rus *vórog* 'enemy, devil'. From Old Low Franconian medieval Latin has *vargus* 'one who is expelled (for a crime); highwayman, bandit'. As such a word of the northwest of the IE world. Germanic and Baltic have evidence of a lengthened-grade derivative **ųērghos* in OE *eald-wērig* 'vile of old', Lith *vérgas* 'slave', Latv *ver̃gs* 'slave'. Different in form but related are Hit *hurkil-* (< **h$_{2/3}$ųr̥ghil-*) '± sin, (sexual) perversion', *hurkiles pesnes* '± catamites' (subject to the death penalty who may redeem themselves by heroic acts), TochB *wärṣṣe* (< **h$_{2/3}$ųórgh(e)sįo-*) 'highwayman, bandit'. The two meanings of ON *vargr*, 'criminal' and 'wolf', have led many to reconstruct **ųorĝhos* and connect the Germanic word with **ųerĝh-* 'strangle' (cf. NE *worry* [as a predator might do to its prey]) and wider speculations of the PIE juridical status of calling someone a wolf (cf. OInd *vr̥ko hí ṣáḥ* 'he is a wolf', referring to the special legal status of the abductor in the ritual kidnapping of a bride). However, the meaning 'wolf' in Old Norse seems clearly secondary and the morphologically exact equation with Baltic and Slavic suggests a more mundane original meaning of 'evil, criminal' though the Old Norse equation of 'wolves' with 'criminals' may reflect a conceptual connection of PIE age.

See also ARMY; BAD; WOLF. [D.Q.A.]

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CROOKED

(s)keng- ~ ***(s)kṇg-*** 'crooked' [*IEW* 930 (**(s)keng-*); Wat 59 (**skeng-*); BK 261 (**k[h]un-k'-/*k[h]on-k'-*)]. MIr *scingim* 'spring', ON *skakkr* 'skew, distorted', OHG *hinkan* 'limp, go lame', Grk *σκάζω* 'limp, go lame', Av *haxti-* 'thigh', OInd *sákthi* 'thigh', *kháñjati* 'limps'. While there is some variation in precise formation, geographic spread supports PIE status.

(s)kel- 'crooked'. [*IEW* 928 (**(s)kel-*); Wat 59 (**skel-*); Buck 12.74]. ON *skjalgr* 'slanting', OE *scēolh* 'crooked', OHG *scëlah* 'slanting, crooked' (< Gmc **skelha* < **skel-ko-*), OPrus *culczi* 'hip, haunch', Lith *kùlnas* 'heel', Bulg *kúlka* 'thigh', Alb *çalë* 'lame', Grk *σκέλος* 'thigh'. An early reading of TochA *kolye* as 'hip' might have allowed a connection here, but this word is now seen to mean something like 'tail' (while TochB *kolyi* appears to mean 'paw, claw, hoof'). Although Lat *scelus* 'crime, wickedness' and Arm *šel* 'crooked, bent' are sometimes proposed as cognates, they are doubtful. A word of at least the west and center of the IE world.

See also BEND; LEG. [J.C.S.]

CROW

kVr-C- 'crow; raven'. [*IEW* 567 (**ker-*); Wat 29–30 (**ker-*); GI 457–458 (**k'er-*)]. Lat *corvus* 'raven', *cornīx* 'crow', OE *hrōc* 'crow, raven, rook' (> NE *rook*), Bulg *krókon* 'raven', Grk *κόραξ* 'raven', *κορώνη* 'crow', OInd *karaṭa-* 'crow', *karāva-* 'crow' (Old Indic has in all thirty-six words for the 'crow'). The base term **kVr-C-* denotes 'a harsh, coarse tone'. Similar to this root is Arm *agṙaw* 'crow' which cannot be easily related. Armenian also has, for the term 'raven' and 'crow', derivatives of **h₃er-* (cf. Grk *ὄρνις* 'bird'), i.e., Arm *ori* 'raven, crow', while MIr *tethra* 'crow' derives from **teter-* 'type of large (game) bird'. The same root that underlies the words for 'crow' and 'raven' also appears to supply MIr *cerc* 'hen', OPrus *kerko* 'loon, diver', Grk *κόραξ* 'falcon', Av *kahrkatat* 'cock' and OInd *kṛkara-* 'cock' but there is no reason to think that these non-crow terms could not have been onomatopeically engendered, independently.

u̯er- 'crow'. [*IEW* 1166 (**u̯er-*); GI 458 (**wṛ-m-*)]. OPrus *warne* 'crow', Lith *várna* 'crow', OCS *vrana* 'crow', Rus *voróna* 'crow', TochB *wrauña* 'crow'. Perhaps also Arm *agṙaw* 'crow' which could have developed **u̯er-* (PIE **u̯V* > Arm *gV*), but the initial *a-* would be perplexing, although Armenian does have *atmn* 'tooth' (cf. Lat *dēns* 'tooth') with no explanation for the prothesis. The distribution suggests at least a late term in PIE.

These large and most common black birds have a clear name from the literature of many IE dialects. The bird itself is indeed remarkable, not only for its size and color, but also for its behavior, which reflects intelligence and friendliness; it has, as well, an amusing gait, suitable for such an inquisitive animal, and is also extremely vocal, with a wide range of sounds. On the other hand, these traits tend to be outweighed by these birds' association with carrion and hence in Vedic myth the crow is considered an inauspicious omen as it was also among the Greeks, and indeed, others can see the crow and raven as a spooky bird, lurking in the shadows, waiting to announce flood, famine or disaster. This emphasizes another aspect of these birds, their association with prophetic knowledge. A west European comparison may be found between Celtic and Germanic where functionally cognate deities, the Irish Lug (= Gaul *loúgos* 'raven') and the Norse Ōðinn, were both accompanied by two ravens which supplied them with foreign "intelligence".

See also BIRDS. [J.A.C.G.]

CRUSH

mer- 'crush, pulverize'. [*IEW* 735–736 (**mer-*); BK 526 (**mur-/*mor-*)]. OIr *meirb* 'lifeless', Wels *merw* 'weak, slack' (Celtic < **meru̯i-*), ON *merja* 'prick, pierce, sting', *morna* 'wither away, droop', OE *mearu* 'tender, soft, callow', OHG *maro* 'tender, soft, callow', OCS *iz-mrŭmīrati* 'root out, clear (a wood for cultivation)', ORus *mormomrati* 'gnaw', Grk *μαραίνω* 'extinguish (a fire)', Hit *mariyattari* 'is smashed', OInd *mṛṇāti* ~ *mṛṇáti* 'crushes, grinds'. The basic meaning is best preserved in the earlier attested languages, i.e., Hittite and Old Indic, while Celtic and Germanic show a semantic development toward the result of crushing, i.e., something that has been ground down, made soft. Widespread and old in IE.

u̯es- 'crush, grind, pound, wear out; wither, fade'. [BK 501 (**wasʸ-/*wəsʸ-*)]. ON *visna* 'wither', *visinn* 'withered', OE *wisnian* 'dry up, wither, waste away', *weornian* 'pine away, become weak, fade (away), wither', OHG *fer-wesen* 'destroy; decay', Alb *veshk* 'wither, shrivel, wilt', Hit *wesuriya-* 'press, oppress'. Widespread and old in IE.

(s)terĝh- '± crush'. (pres. ***(s)tṛ-né-ĝh-ti***). Hit *istarkzi* ~ *istar(ak)kiyazzi* 'is ailing; afflicts', *istarninkzi* (< **stṛ-né-ĝh-ti*) 'afflicts', OInd *tṛṇéḍhi* (< **tṛ-né-ĝh-ti*) 'crushes, bruises', *stṛháti* 'crushes'. Though preserved only in Anatolian and Old Indic, both the geographical distribution and the archaic morphology (infixed *ne*-present) argue for PIE status for this word. The meaning in Hittite may reflect semantic conflation with a phonologically similar **(i)swark-* 'be sick' inherited from PIE **su̯ergh-*.

u̯eld- 'crush, grind, wear out; be worn out'. [BK 506 (**wal-/*wəl-*)]. Wels *gwlydd* 'mild, soft, tender, gentle', NE *wilt*, TochB *wälts-* 'crush, grind'. Cf. MHG *wëlken* 'fade, decay'. The geographical spread of the attestations indicates PIE status.

See also GRIND. [D.Q.A.]

CUCKOO

kukū 'cuckoo'. [*IEW* 627 (**kuku*)]. MIr *cūach* 'cuckoo', Wels *cog* 'cuckoo', Lat *cucūlus* 'cuckoo', ME *cuccu* 'cuckoo', Lith *kukúoti* 'to cuckoo', Rus *kukúša* 'cuckoo', Grk *κόκκυξ* 'cuckoo', Arm *k(u)ku* 'cuckoo', NPers *kuku* 'cuckoo', OInd *kokilá-* 'cuckoo'. This widely distributed name is likely onomatopoeic in most instances, reflecting the well-known call of the cuckoo. The same term also appears in neighboring language families, e.g., Georgian *gugulis* 'cuckoo', Turkish

guguk 'cuckoo' and Akkadian *kugu* 'cuckoo'. The IE root **(s)p(e)iko/eh$_a$-* 'woodpecker' supplies the OInd *pikā-* 'any of the Indian cuckoos that breed in the Himalayas'.

The cuckoo is notable for its irresponsible nesting habits, for it lays its eggs in other birds' nests, for them to raise. Thus the bird's personality has sexual overtones; it is also seen as a harbinger of Spring. Its distribution covers the IE area.

See also BIRDS. [J.A.C.G.]

CURE *see* HEAL

CURSE *see* PRAY

CURVE

****pandos*** 'curved'. [*IEW* 788 (**pando-s*)]. Lat *pandus* 'curved, bent', ON *fattr* 'bent back'. Western isogloss in late IE.

****(s)kamb-*** 'curve'. [*IEW* 918 (**(s)kamb-*); Wat 58 (**skamb-*); Buck 12.74]. OIr *camm* 'curve', Wels *cam* 'curve', Grk ***σκαμβός*** 'curve'. At least a word of the west and center of the IE world.

****kan-t(h)o-*** 'corner, a bending'. [*IEW* 526–527 (**kan-tho-*); Wat 27 (**kanto-*); Buck 12.353]. Wels *cant* 'tyre', Gaul **cantos* 'rim, border; iron rim of wheel' (> Lat *canthus* ~ *cantus* 'iron rim of a wheel'), OCS *kutŭ* 'angle', Rus *kut* 'angle', Grk ***κανθός*** 'corner of the eye'. The OIr hapax *cet* (*cēt?*) 'pillar' has been placed here but this is doubtful. A word of the west and center of the IE world.

See also BEND. [A.D.V.]

CUSTOM

****s(u̯)edh-*** 'custom, characteristic, individuality'. [*IEW* 883 (**su̯ēdh-*); Wat 67 (**s(w)e-*); Buck 19.61]. Lat *sodālis* 'companion' (< 'member of a group'), ON *siðr* 'custom', OE *sidu* 'custom', OHG *situ* 'custom', Goth *sidus* 'custom' (< Gmc **siðuz* < **sedhu-*), Grk ***ἔθος*** 'practice, habit', perhaps OInd *svadhā́* 'character, peculiarity, custom', TochA *ṣotre* 'sign, characteristic', TochB *ṣotri* 'sign, characteristic'. Both the Germanic (because of the *i* vocalism) and Old Indic cognates are questionable but if Old Indic is accepted, then there is a good case for PIE status. This has been analyzed as consisting of **s(u̯)e* 'own' + **dh(e)h$_1$-* 'set, establish'. This term has been connected in particular to reciprocal and contractual relationships, including poet-patron relations and other gift-exchanges.

See also EXCHANGE; SIGN. [J.C.S.]

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CUT

****del-*** 'carve, split, cut'. [*IEW* 194–196 (**del-*); Wat 11 (**del-*); Buck 12.232]. OIr *dello* 'form', Wels *delw* 'form, image', Lat *dolō* 'hew', ON *telgja* 'carve, cut', OPrus *dellieis* 'divides', Lith *dalýti* 'to divide', Latv *dalît* 'to divide', Alb *dalloj* 'cut', Grk ***δαιδάλλω*** (< **dai-dal-i̯o-*) 'work cunningly', OInd *dálati* 'bursts, cracks'. The root is attested in a broad range of languages and may be reconstructed to PIE with a degree of confidence. The Old Indic form is found only in the later language, suggesting the need for caution in connecting it with the cognate set; its semantic value may be the result of influence by the phonetically similar form *dṛṇā́ti* 'bursts, tears'.

****gleubh-*** 'cut off, cut out'. [*IEW* 401–402 (**gleubh-*); Wat 23 (**gleubh-*)]. Lat (verb) *glūbō* 'peel, skin', ON *kljúfa* 'to split', OE *clēofan* 'to split' (> NE *cleave*), OHG *klioban* 'to split', Grk ***γλύφω*** 'carve out'. Cognates are confined to Italic, Germanic and Greek suggesting that the case for a PIE reconstruction is not strong. On the other hand, the zero-vocalism seen in the Greek form may possibly point to an earlier, athematic paradigm upon which the attested thematic forms are based. Such a paradigm would suggest considerable antiquity for the root.

****(s)grebh-*** 'scratch, cut'. [*IEW* 392 (**gerebh-*); Wat 20 (**gerbh-*); GI 536 (**(s)k'rebh-*)]. ON *skrapa* 'scrape' (borrowed > NE *scrape*), OE *ceorfan* 'to cut' (> NE *carve*), OHG *kerban* 'notch, carve', MHG *kerben* 'to notch, carve', OPrus *gīrbin* 'number', OCS *žrěbŭ* 'lot', Grk ***γράφω*** 'scratch, write'. Distribution suggests antiquity only in the western and central IE world. The Old Prussian word for 'number' suggests that the verb may have been used to describe scratching a tally on some object.

****(s)ker-*** 'cut apart, cut off'. [*IEW* 938–940 (**(s)ker-*); Wat 59–60 (**(s)ker-*); GI 612 (**sk^{h}er-*); Buck 9.22; BK 246 (**k[^{h}]ar-/*k[^{h}]ər-*)]. OIr *scaraid* 'separates, divides', ON *skera* 'to cut', OE *scieran* 'to cut, shear' (> NE *shear*), OHG *sceran* 'to cut, shear', Lith *skiriù* 'to separate, divide', Latv *šķiȓt* 'separate, divide', Rus *krojú* 'cut', Alb *shqerr* 'tear apart', Grk ***κείρω*** 'cut', Arm *k'erem* 'scrape off, scratch off', Hit *karsmi* 'cut off, castrate', OInd *kṛṇā́ti* 'wounds, kills'. The root is so well attested that it is securely reconstructible to PIE. Unfortunately, the present stems do not correspond very neatly. The Old Irish form points to a root of the form **skerh$_x$-*; the Old Indic form, with nasal infix, may also point to a root with final laryngeal. The Lithuanian form exhibits a zero-grade vocalism with a suffix **i̯e/o-*; Greek, on the other hand, possibly reflects a full-grade vocalism with the same suffix. The Hittite form shows the extensions *-s-*. Cf. also the derivative **(s)kert-*. [*IEW* 941–942 (**(s)ker-t-*)]: Lith *kertù* 'hew', Latv *cḗrtu* 'hew', Arm *k'ert'em* 'skin', Hit *kartai-* 'cut off'. Av *kərəntaiti* 'cuts', OInd *kṛntáti* 'cuts'. The root also underlies the term for 'tally' in Germanic, e.g., ON *skor* 'notch, tally, twenty' (borrowed > NE *score*), OE *sceard* 'cut, notch', i.e., it reflects a preliterate accounting technique by which a notch on a stick or other artifact corresponded to a commodity unit or set of units.

****kerd-*** 'cut into, carve'. [*IEW* 579 (**kerd-*); Wat 30 (**kerd-*); Buck 9.41; BK 210 (**t̰ɬ[^{h}]ar^y-at'-/*t̰ɬ[^{h}]ər^y-at'-*)]. OIr *cerd* 'art, handicraft', Wels *cerdd* 'song', Grk ***κέρδος*** 'profit, advantage, gain'. Another enlargement of **(s)ker-*. At least a word of the west and center of the IE world.

__*skeh$_1$i-d-__ 'cut'. [*IEW* 919–921 (**skĕi-*); GI 94]. Lat *scindō* 'cut', ON *skīta* 'to defecate', OE *be-scītan* 'to defecate' (> NE *shit*), OHG *scīzan* 'to defecate' (Gmc < **skih$_x$d-*), Lith *skíedžiu* 'separate', Latv *šķiêdu* 'scatter', OCS *čěditi* 'filter, strain', Grk *σχίζω* 'split, tear', perhaps Arm *c'tem* 'scratch'; **skei-t-*: Goth *skaidan* 'to separate'. The unextended **skeh$_1$i-* appears in OInd *chyáti* 'cut'.

__*sek-__ 'cut'. [*IEW* 895 (**sĕk-*); Wat 56–57 (**sek-*); Buck 9.22]. MIr *eiscid* (< **in-sek-*) 'cuts off', Lat *secō* 'cut', *sciō* 'know', Lith *į-sékti* 'to dig', OCS *sěkǫ* 'cut', Hit *sakk-* 'know'. Most forms based on this root are attested in west IE; if, on the other hand, the root underlies the forms **(s)ker-*, **(s)ker-t-* and **(s)keh$_1$i-*, then it must be of great antiquity.

__*k^{w}er-__ 'cut' (pres. __*k^{w}érti__). [cf. Buck 9.22; BK 328 (**k^w[^{h}]ur-/*k^w[^{h}]or-*)]. Wels *pryd* (< **k^{w}r̥tu-*) 'time', Osc *-pert* '...time(s)' (e.g., *petiro-pert* 'four-times'), Hit *kuerzi* 'cuts', Luv *k(u)warti* 'cuts', OInd *-kr̥t* '...time(s)' (e.g., *sa-kŕ̥t* 'once'). Though not attested in many stocks, the geographical distribution of those attestations would seem to guarantee PIE status for this verb.

__*put-__ 'cut'. [VW 397]. Lat *putāre* 'prune', TochAB *putk-* (< **put-sk̑e/o-*) 'divide, share, separate'. Although poorly attested, the geographical distribution suggests PIE status.

See also **CRAFT, CRAFTSMAN**; **HAIR (CUT HAIR)**; **KNIFE**; **SWORD**.

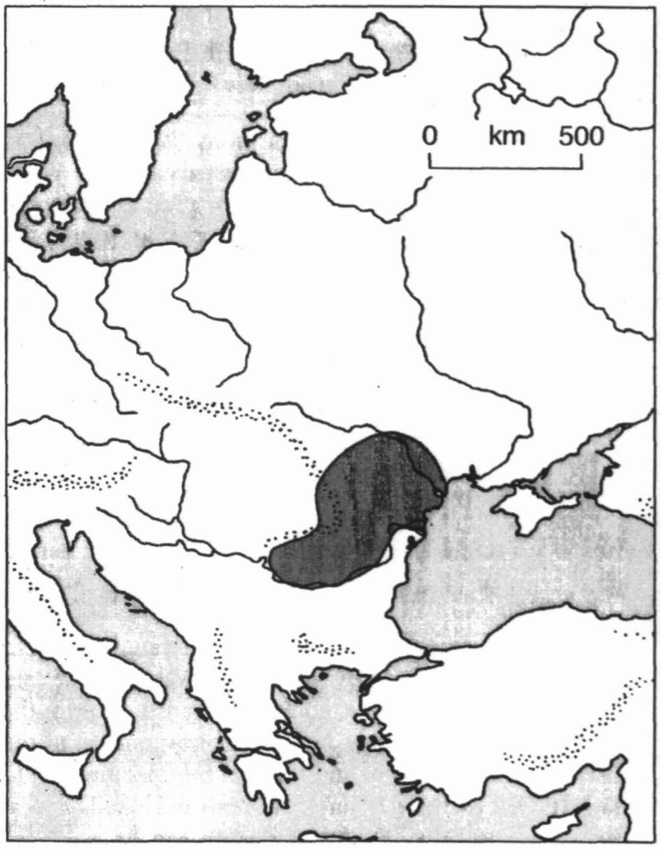
[M.N., D.Q.A., C.F.J.]

·D·

DACIAN LANGUAGE

The Dacians, situated north of the lower Danube in the area of the Carpathians and Transylvania, are the earliest named Indo-European group in the present territory of Romania. They are first mentioned in the writings of Herodotus (*Histories* 4.49, 93, 100, 119, 125) and Thucydides (*Peloponnesian Wars* 2.96, 1) and later were known historically from the first centuries BC, appearing in Greece as slaves where a Dacian was known as a *Δαος* (or Latin *Davas*).

The Dacian language, attested primarily in the form of personal and place names, whose etymologies can only be speculative, or in the form of a few Greek glosses, is very little known. A Dacian origin has also been supposed for certain words in Romanian that lack Latin or Slavic ancestors, e.g., Rom *mal* 'mountain' (cf. Alb *mal* 'mountain'), Rom *mare* 'big' (cf. Alb *madh* 'big') but again the Indo-European nature of these words is controversial. Dacian is generally regarded as a variety of Indo-European closely related to Thracian (which was centered in what is now Bulgaria) and hence the frequently employed expression "Thraco-Dacian". Certainly such an association makes sense geographically (and, according to Strabo, was the opinion of the classical world as well) but as Thracian is similarly poorly attested such a closeness of relationship must be taken largely as an act of faith. Moreover, it has long been observed that certain toponymic elements show markedly different distributions, e.g., *-dava* 'town' is the standard element north of the Danube while in Thrace the corresponding element is *-bria*. Other frequent toponymic elements, e.g., *-para* 'settlement', *-diza* 'fortified town' and *-sara* 'river' are confined to Thracian territory. Ivan Duridanov has reviewed the evidence for toponymical terms of putatively IE derivation and found thirteen exclusive to Thracian and eight (**aba*, **auras* 'river'; **mariska-*, **tibas*, **lugas* 'swampy area'; **mal-* 'hill; bank'; *karpa-* 'cliff'; and **medas* 'forest') confined to Dacian territory.



Dacian Generalized distribution of the Dacians.

The Iron Age Dacians controlled the mines of the Carpathians which provided gold, silver and iron and by the

first century BC they had carved out a substantial empire under their king Burebista. Wars between the Romans in the next century ultimately led to Trajan's total conquest of the Dacians by 106 AD. From the conquered territory the Roman province of Dacia was formed and the earlier Dacian language was eventually replaced by Latin whose legacy has survived as modern Romanian.

Description

Some 20–25 Indo-European etymologies have been regarded as reasonably solid for Dacian place and personal names and botanical terms although in the absence of a secure semantic base, little certainty can attach to any of them. Among the more convincing is the name of the town at the mouth of the river Axios, *'Αξίοπα*, which is modern Cernavoda, i.e., 'black water'. The river name *"Αξιος* may derive from **n̥-ks(e)i-* 'not-shining' (i.e., 'dark', cf. Av *axšaēna-* 'dark-colored', while the second element may be from **upā* 'river' (e.g., Lith *ùpė* 'river'). The place-name element *-sara* (*Δαυσαρα*, *Saprasara*) may derive from **sorā* (cf. Lat *serum*, OInd *sarā-* 'liquid') while similar appearing names such as *Aizis*, *Αἰζισίς*, and *Azizis* may all derive from the PIE **h*$_a$*eiĝs* 'goat', cf. Grk *αἴξ* '(she-)goat', Arm *ayc* '(she-)goat', Av *izaenā-* '(goat)hide', and perhaps Alb *edh* 'kid'. The name of the 'birch' (PIE **bherh*$_x$*ĝos*) probably lies behind the place-name *Bersovia/Berzobis*. Comparisons such as Dacian *séba* 'elder-tree' and Lith *šeivā-medis* 'elder-tree' from **k̑eiu̯eh*$_a$*-* support the argument that Dacian palatalized the palatal velars. While the evidence is far too meager to provide a full phonological picture, Edgar Polomé has outlined the basic features of Dacian, among which are included: merger of voiced aspirates with non-aspirates, change of palatal velars into sibilants, **o* > *a*, accented **ĕ* > *ie* ~ *ia*, **ē* > *a*, etc.

Dacian Origins

With historical attestations from the fifth century BC onwards, Dacians can presumably be recognized in the archaeological record as bearers of the Iron Age Ferigile group who exploited the iron sources of the Carpathians. The Ferigile group is presumably derived from the somewhat earlier (eighth century BC) Basarabi culture (situated in modern Moldova). Beyond this point, the prehistoric record of Romania is exceedingly complex and the ethnic identity of its inhabitants is increasingly conjectural. What can be said is that the earlier cultures marking the transition from the Bronze Age to the Iron Age horizon (corresponding to the Hallstatt culture of central and western Europe) are seen to be largely if not exclusively autochthonous and based on local Bronze Age cultures. This relationship can be seen, for example, in the way that the earliest Iron Age cultures appear to distribute themselves on the basis of local Bronze Age groups. The Bronze Age itself is marked by a cultural succession, sometimes involving cultures covering broad territories of Romania and adjacent territories such as the Noua culture of the thirteenth-twelfth centuries BC or smaller regional groups, especially in the middle Bronze Age *c* 1600 BC. The early Bronze Age cultures of the region (eastern Romania and Moldova) consist primarily of the Cernavoda and Folteşti cultures which represent, at least ceramically, components of a broad Balkan-Danubian complex of cultures that extended as far south as Anatolia.

In the Kurgan theory the creation of the early Bronze Age cultures is credited to the incursion of steppe peoples from the Ukraine and south Russia. The cultural milieu of Neolithic Romania comprised the Cucuteni-Tripolye culture over the north-east, the Petreşti culture to its west and to the south, the Gumelniţa culture, which was primarily anchored in Bulgaria, south of the Danube but extended into the northwest Black Sea region. What is regarded as the structural collapse of these earlier Neolithic cultures is held by many to have been the result of Kurgan invasions which are attested in Romania by relatively persuasive evidence for burials and whole cemeteries of the steppe type and whose deceased may be physically differentiated from those of the previous Neolithic cultures by being taller, more robust and long-headed. Other cultural markers include the appearance of the domesticated horse, cord-decorated and shell-tempered pottery, etc. This cultural collapse represents the most recent major discontinuity within the archaeological record that is widely favored to reflect IE expansions into the region. Before this discontinuity, only the initiation of the Neolithic itself with the spread of the Criş culture and subsequent Neolithic expansions eastwards across the northwest, e.g., the Bug-Dniester culture, or along the Black Sea coast, the Hamangia culture (Dobrogea), could be seen as a major vector for the spread of a new language. These Neolithic populations, marked by a remarkable density of settlement, no doubt formed the essential population basis of the region. Nevertheless, both the evidence of cultural diffusion and the subsequent evidence of physical types suggests a persistent influx of steppe populations beginning with the Copper Age and continuing into later periods. This influx is especially marked in the Iron Age where presumably Iranian-speaking steppe populations (Scythians and Sarmatians) contributed to the ethnic mixture among the Dacians. By the first century AD, the impact of Roman colonization and assimilation brought about the end of the Dacians as an ethno-linguistic group.

See also BUG-DNIESTER CULTURE; CERNAVODA CULTURE; THRACIAN LANGUAGE; TRIPOLYE CULTURE. [J.P.M.]

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DARK

dh(o)ngu- 'dark'. [*IEW* 248 (**dheng^{u}o-*); GI 173 (**d^{h}ṇ-k'-*); BK 78 (**dum-k'w-/*dom-k'w-*)]. Wels *dew* (?< **dhn̥g-u̯-i̯o/eh$_a$-*?) 'mist, smoke', ON *døkkr* (< Proto-Gmc **dankwiaz*) 'dark', OHG *tunkal* (< PIE **dhn̥g-*) 'dark', Hit *dankuis* (*o-* or zero-grade) 'dark'. The various reflexes suggest an *u*-stem adjective, **dhóngus, *dhn̥góus*. The distribution suggests PIE antiquity. A proposed derivation from **dhemh$_x$-* 'to blow' is semantically improbable.

tómh$_x$es- 'dark'. [*IEW* 1063–1064 (**tem(ə)-*); Wat 69 (**temə-*); Buck 15.63; BK 101 (**t[^{h}]am-/*t[^{h}]əm-*)]. Lat *temere* 'blindly, by chance' (< *'in the dark'), Lith *tamsà* 'darkness', Latv *tùmsa* 'darkness', Av *təmah-* 'darkness', OInd *támas-* 'darkness'. Compare the derivative **temh$_x$sreh$_a$-* in Lat (pl.) *tenebrae* (< **temebrae*) 'darkness', OInd (pl.) *támisrāḥ* 'darkness' and the laryngealless variant **temsro/eh$_a$-* in OHG *dinstar* 'dark', Lith *tim̃sras* 'dark', Av *taθra-* 'darkness', NPers *tār* 'dark'. Other formations are seen in MIr *teimen* 'dark gray', OCS *tĭma* 'darkness', *tĭmĭnŭ* 'dark', Rus *témrivo* 'darkness'. Finally we find this word in various toponyms such as British *Tamesas* (< **tamēssa*) 'Thames' (as quoted by Caesar), and Illyrian *Τόμαρος* (name of mountain). The underlying verb is preserved in Lith *témti* 'become dark'. Widespread and old in IE.

h$_1$reg^w-es- '(place of) darkness'. [*IEW* 857 (**reg^{u}os-*); Wat 54 (**reg^w-es-*)]. ON *røkkr* 'darkness', Goth *riqis* 'darkness' (< **rekwez*), Grk *ἔρεβος* 'hell, darkness of underworld', Arm *erek* 'evening', OInd *rájas-* 'night'. Another formation is seen in TochA *orkäm* 'dark, darkness', TochB *orkamo* 'dark'. Distribution suggests PIE status for a term that may refer to a place of darkness, perhaps the underworld.

su̯er- 'darken (either by making red or black)'. [*IEW* 1052 (**su̯ordo-s*); Wat 68 (**swordo-*); GI 685 (**s^{o}er-*)]. The underlying form is preserved only in Iranian: Oss (vb.) *xuarun* 'color', (noun) *xuaræn* 'color', Khot *hvāraka-* 'one who colors' (the Ossetic and Khotanese implying a Proto-Iranian **hvāraya-* 'make dark, color'), Sogd *xwrn-* (= */xwaran/*) 'color'; an enlargement **su̯erd-* appears in Lat *sordēs* 'dirt, filth, uncleanness', *sordeō* 'am dirty, am despised, appear worthless', *suāsum* 'dirt' (< **suassom* < **su̯ardstom* but the **-a-* is not altogether explained), ON *svartr* 'black', *sorta* 'black color', *sorti* 'darkness, thick fog', *sortna* 'become dark', OE *sweart* 'black, dark' (> NE *swart*), OHG *swarz* 'black', Goth *swarts* 'black', NPers *xvāl* 'lampblack'. Other enlargements appear in (possibly) OIr *sorb* 'stain, dirt', OE *sweorc* 'cloud, darkness, mist', *sweorcan* 'become dark; be troubled'. Sufficiently widespread to guarantee its PIE status.

dhu̯enh$_x$- 'cover over, darken'. [*IEW* 266 (**dhu̯en(ə)-*); Wat 15 (**dhwenə-*)]. Grk *θνήσκω* 'die', *τέθνηκα* 'am dead', *ἔθανον* 'died', *θάνατος* 'death', *θνητός* 'mortal', OInd *ádhvanīt* 'was extinguished (of anger)', *dhvanaya-* 'envelop, wrap up, darken', *dhvāntá-* 'covered, veiled, dark; darkness, night'. The exact morphological equivalence of the Greek and Old Indic assures at least late IE status for this word. It is ultimately related to a large number of words for 'dust' and 'smoke' and the original meaning must have been 'be covered or darkened with dust or smoke'. That meaning remains relatively unchanged in Old Indic but in Greek we see a further metaphorical (and euphemistic) change to 'die'.

bhlendh- 'be/make cloudy'. [*IEW* 157–158 (**bhlendh-*); Wat (**bhel-*); GI 366; Buck 4.97; BK 13 (**bal-/*bəl-*)]. MLat *blundus* 'blond' (loan word < Gmc **blunda-*), ON *blanda* 'mix', *blindr* 'blind', *blunda* 'close one's eyes, sleep', OE *blandan* 'mix, mingle; trouble, disturb, corrupt', *blendan* 'make blind; mix', *blind* 'blind; dark, obscure' (> NE *blind*), *blandenfeax* 'grizzly-haired, old', ME *blund(e)ren* 'stir up, confuse' (> NE *blunder*), OHG *blantan* 'mix', *blenten* 'make blind', *blint* 'blind', Goth *blandan* 'associate with', *blinds* 'blind', Lith *blandùs* 'unclean', *blę̃sti* 'mix food with flour', *blę̃stis* 'become dark', OCS *blędǫ* 'err', *blǫdŭ* 'prostitution', Rus *blud* 'unchastity, lewdness'. A word of the northwest of the IE world.

merk- '± darken'. [cf. *IEW* 733–734 (**mer(ə)k-*); cf. Wat 42 (**mer-*); BK 539 (**mar-/*mər-*)]. OIr *mrecht-* 'variegated', Wels *brith* 'variegated', ON *myrginn* 'morning', OE *morgen* 'morning', OHG *morgan* 'morning', Goth *maúrgins* 'morning' (Gmc < **mr̥kóno-* ~ **mr̥kéno-* 'twilight'), Lith *mérkiu* 'close one's eyes, wink', OCS *mrŭknǫti* 'become dark', *mrakŭ* 'dark', *mracĭnŭ* 'dark'. A word of the northwest of the IE world.

(h$_a$)merh$_x$g^w- 'dark'. [*IEW* 733–734 (**mer-*)]. ON *myrkr* 'darkness' (borrowed > NE *murk*), OE *mierce* 'darkness' (< Proto-Gmc **merkwia-*), Lith *márgas* 'variegated', Alb *murg* (< PIE **morh$_x$g^{w}o-*) 'black', Grk *ἀμορβός* (< **h$_a$morh$_1$g^{w}o-* or metathesized from **μοραβός* < **morh$_a$g^{w}o-*) 'dark'. A relation to OInd *mr̥gá-* 'wild animal' is doubtful. Distribution suggests a word of the west and center of the IE world.

?*(h$_a$)mauros 'dark'. [*IEW* 701 (**mau-ro-*)]. Rus *(s)múryj* 'dark gray', Grk *ἀμαυρός* 'dim, faint; troubling, confusing'. Possibly a word of the center in late IE. Perhaps belonging here as well is ON *meyrr* (< Proto-Gmc **maurya-*) 'soft, tender, mellow' but the semantic distance is troubling.

See also COLOR; DEATH; DIRT; UNDERWORLD. [M.E.H., D.Q.A.]

DAUGHTER

dhug(h$_a$)tḗr (gen. ***dhug(h$_a$)trós***) 'daughter'. [*IEW* 277 (**dhug(h)əter-*); Wat 15 (**dhughəter-*); GI 668 (**d^{h}ug^{h}H̥t^{h}er-*); Buck 2.42; Szem 4; Wordick 153–154]. Gaul *duxtir* 'daughter', Osc *fu(u)tír* 'daughter', ON *dōttir* 'daughter', OE *dohtor* 'daughter' (> NE *daughter*), OHG *tohter* 'daughter', Goth *daúhtar* 'daughter', OPrus *duckti* 'daughter', Lith *duktė̃* 'daughter', OCS *dŭšti* 'daughter', ORus *doči* 'daughter', Myc

tu-ka-te 'daughter', Grk *θυγάτηρ* 'daughter', Arm *dustr* 'daughter', Luv ^{SAL}*duttar(ri)yati-* 'daughter', Lycian (acc.) *kbatra-* 'daughter', Av *duγədar-* 'daughter', Sogd *δwγṭ* 'daughter', Pashto *lūr* 'daughter', OInd *duhitár-* 'daughter', Ashkun *zū* 'daughter', Prasun *lüšt(ul)* 'daughter', TochA *ckācar* 'daughter', TochB *tkācer* 'daughter'.

That a single term 'daughter' survives in some way in all major branches except Albanian shows that Indo-European daughters were significant to their families. Later Italic and Celtic languages have innovated with a new term, but archaic Oscan and Gaulish inscriptions preserve traces of the original lexeme. The exact nature of the medial laryngeal cannot be determined, and the unexpected loss in Italic, Celtic and Armenian suggests a unique cluster. Persistent efforts to create just-so stories about Indo-European home-life by etymologizing 'daughter' as 'milker' (< **dheugh-*, though the meaning 'milk' for this verb is restricted to Indo-Iranian) and more recently as 'the person who prepares the meals' (< **dhug-* 'meal', cf. Goth *daúhts* 'meal, banquet', East Iranian (Herodotus) *τυκτά* 'banquet') provide no insight into the actual state of affairs.

See also Brother; Kinship. [M.E.H.]

DAUGHTER-IN-LAW

snusós 'son's wife, brother's wife'. [*IEW* 978 (**snusós*); GI 663 (**snuso-*); Buck 2.64; Szem 19; Wordick 244]. Lat *nurus* 'son's/grandson's wife', ON *snor* 'son's wife', OE *snoru* 'son's wife', Fris *snore* 'son's wife', OHG *snur(a)* 'son's wife', CrimGoth *schuos* (for **schnos*) 'son's wife', ORus *snŭkhá* 'son's wife, bride', Rus *snokhá* 'son's wife, bride', Grk *νυός* 'son's wife, bride', Arm *nu* 'son's wife', Sogd *šwnšh* 'daughter-in-law', Oss *nost'ä* 'son's/brother's wife', OInd *snuṣā́* 'son's wife'. The distribution indicates PIE status. Unrelated or only distantly related is Alb *nuse* 'bride' < (**(s)nubh-tieh$_a$*), parallel to the later replacement in Greek by *νύμφη* 'young wife, married woman, marriageable woman, daughter-in-law'.

Daughters-in-law have not only suffered at the hands of their husbands' mothers but from Teutonic etymologists, who have attempted to relate the term to 'knot' (< **snu-* 'bind, tie'; cf. the homophonous German *schnur*). These attempts and Szemerényi's more recent attempt to see the word as a derivative of 'son' (< **snusūs* < **sūnu-sūs* < **sūnu-sū-s* 'son's wife') with unparalleled zero-grade ablaut of *u* is most unconvincing. Alternatively, GI suggest a relationship with the root **sneubh-* 'marry' which is plausible if the latter represents an enlargement of (an unattested) **sneu-* 'marry'.

See also Daughter; Kinship; Son-in-law. [M.E.H.]

DAWN

h$_a$éusōs 'dawn'. [*IEW* 86–87 (**(ā)us-ōs*); Wat 4 (**ausōs-*); Buck 14.43; BK 393 (**ħaw-/*ħəw-*)]. MIr *fáir* 'sunrise', Wels *gwawr* 'dawn', Lat *aurōra* (< **h$_a$eusōseh$_a$*, with regular change of intervocalic *-s-* to *-r-*; cf. *aus-ter* 'south wind') 'dawn', OE *ēastre* 'goddess of springtime' (> NE *Easter*), OHG *ōstan* 'eastern', Lith *aušrà* 'dawn', Latv *àustra* 'dawn', OCS *(za) ustra* 'morning', Grk (Homeric) *ἠώς*, (Attic) *ἕως* 'dawn', Av *ušå* 'dawn', OInd *uṣā́-* 'dawn'. From **h$_a$eu̯es-* 'to shine'. The PIE word for 'dawn'.

h$_a$(e)us-sk̑eti 'it lights up, dawns'. [*IEW* 86–87 (**au̯es-*)]. Lith *aũšta* '(it) dawns', Latv *àust* '(it) dawns', Av *usaiti* '(it) dawns', OInd *uccháti* '(it) dawns'.

The root **h$_a$eu̯es-* 'to shine' effects a broad semantic range, including not only 'dawn', 'morning', 'day' and 'light' but also 'east' (the direction of the sunrise) and 'red' (= morning redness, the color of the dawn), reflected in Lat *aurum* (< **h$_a$eusom*) 'gold', OPrus *ausis* 'gold'.

See also Dawn Goddess; Day; East; Gold. [P.B.]

DAWN GODDESS

A Proto-Indo-European goddess of the dawn is supported both by the evidence of cognate names and the similarity of mythic representation of the dawn goddesses among various IE groups. The primary evidence for a PIE **h$_a$éusōs* 'Dawn' is to be found in OInd *Uṣás*, Grk *'Hώς* (*Ēōs*), Lat *Aurōra* (and non-cognate *Māter Mātūta*), and the Baltic dawn goddesses, Lith *Aušrinė* and Latv *Auseklis*.

The OInd Uṣas was the "reluctant" dawn, punished by the warrior-god Indra for attempting to forestall the day. She, as the Roman Māter Mātūta, nurtured her sibling's child instead of her own. In this case the foster child was Agni the fire god, the son of the night, Ratrī (*RV* 1.96). Uṣas was the most addressed goddess in the *Ṛgveda*. She was described as a 'Great'-goddess, and she was transfunctional, being 'endowed with knowledge', 'strong with strength', and 'bestowing all treasures'.

Aurōra (the feminine *a*-suffix is a Latin innovation) was the Roman goddess of the dawn. In Greco-Roman myth, Eōs-Aurōra fell in love with the mortal, Tīthōnus, and she begged the father-god Zeus to grant her lover immortality. She forgot to ask that Tīthōnus be granted eternal youth as well, and she continued to live with her immortal, but ever-ageing, lover. In fact, it was with reluctance that she left his bed each morning, until he became terribly old; then she locked him in a room, where he mindlessly blathers (Homeric Hymn to Aphroditē 237). This theme of the reluctant dawn is found throughout Indo-European dawn mythology. Aurōra's inherited Indo-European mythology was shared by the Roman Māter Mātūta, 'Morning Mother', who took on much of Aurōra's inherited Indo-European myth. In the Roman rites of 'The Mothers', the *Mātrālia*, yellow cakes were offered to the goddess. Female slaves were excluded from the temple of Māter Mātūta at this time, and mothers prayed to her, not on behalf of their own children, but on behalf of another's, since she was an 'unfortunate parent'. The Indic myth of the dawn-goddess Uṣas explains this latter aspect of the rite, described in Ovid's *Fasti* (6.473–568); Uṣas took care of Agni the fire god, the son of the night, Uṣas' sister, Ratrī. Plutarch (*Vitae Parallelae*, 'Life of Camillus' 5.2) also describes the ritual, stating that the mothers care for their *brothers'* children rather than their own. Further, slaves are not only excluded from

the temple; a handmaid is led into the shrine, struck with sticks, and driven forth again. The underlying myth behind this rite is the punishment of the "reluctant" dawn, seen more transparently in Indic myth; in Roman rite the handmaid is punished in her stead.

Ēōs, the Greek goddess of the dawn, shares mythology with Aurōra, having the immortal, ever-aging Tīthōnus as lover; Ēōs, as Aurōra and other dawn goddesses, is "reluctant" to leave her bed.

The Lithuanian *Aušrinė* began each day by lighting a fire for the sun. Her name is cognate with Latvian *Auseklis*, who like other goddesses of the dawn, was "reluctant" in the sense that she did not always rise in the morning. In Latvian folk-songs, there were various explanations for her absence: she was said to be locked up in a golden chamber, or in Germany sewing velvet skirts.

All of this evidence permits us to posit a PIE *$*h_a$éusōs* 'goddess of dawn' who was characterized as a "reluctant" bringer of light for which she is punished. In three of the IE stocks, Baltic, Greek and Indo-Iranian, the existence of a PIE 'goddess of the dawn' is given additional linguistic support in that she is designated the 'daughter of heaven'. This can be seen in the correspondence of Lith *diẽvo duktė̃*, Grk **θυγάτηρ Διός**, and OInd *duhitā́ diváḥ* which all derive from a PIE **dhug(h_a)tḗr diu̯ós* 'daughter of heaven'. The corresponding 'son of heaven' is not lexically reconstructible but is both semantically and mythologically associated with the "Divine Twins".

See also DAWN; DIVINE TWINS; GODDESSES; SUN GODDESS. [M.R.D.]

Further Readings

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DAY

***$h_a$ég̑hr̥** 'day'. [*IEW* 7 (**ā̆gher-*); Wat 1 (**agh-*); Buck 14.41; BK 461 (**hag-/həg-*)]. ON *dagr* 'day', OE *dæg* 'day' (> NE *day*), OHG *tak* 'day', Goth *dags* 'day', Av *azan-* 'day', OInd *áhar* (gen. *áhnas*) 'day'. The etymological connection of the Germanic and Indic forms is based on a dubious analogical effect of Proto-Gmc **dā̆ʒwaz* 'warm time of the year' ([< **dhōg^{w}hos* 'burning'] > ON *dœgr* ~ *dœgn* 'half day, period of twelve hours', OE *dōgor* 'day'), which purportedly supplied the initial **d-* to the Germanic forms. Another suggestion is that the Gmc **d-* results from a misdivision of **tod $h_a$ég̑hr̥* 'that day' or the like as **to(d) dh_aég̑hr̥* (where **dh_a-* gave the same result as **dh-*). If the Germanic and Indo-Iranian forms are cognate, the root appears to be an archaic *r/n*-stem. But its limited geographical spread indicates dialectal status in any case.

***$h_2eh_x$mer-** 'day'. [*IEW* 35 (**āmer-*); Wat 2 (**āmer-*); Buck 14.41]. Grk (Homeric) **ἦμαρ** (gen. **ἤματος**), (Attic) **ἡμέρᾱ** 'day', Arm *awr* (< **h_2eh_xmōr*) 'day'. Dialectal IE, represented only in two stocks that frequently exhibit shared isoglosses.

***deino-** ~ ***dino-** 'day'. [*IEW* 186 (**deino-*); Wat 10 (**deiw-*); Buck 14.41; BK 119 (**t'a^y-/*t'ə^y-*)]. OIr *trēdenus*, 'three-day period', Lat *nundinae* 'the ninth (market) day', OCS *dĭnĭ* 'day', OInd *dína-m* 'day'; the full form of the root is represented by Goth *sinteins* 'daily', OPrus (acc.) *deinan* 'day', Lith *dienà* 'day', Latv *dìena* 'day'. Possibly belonging here as well is Alb *gdhin* (< **-d(e)ini̯e/o-*) 'it dawns'. The root **deino-* ~ **dino-* is a nominal form derived from the verbal root **dei̯u-* 'to shine' by means of a nasal infix. This secondary form is probably PIE in date.

***di̯e(u)-** 'day'. [*IEW* 184–185 (**dei̯eu-*); Wat 10 (**deiw-*); GI 693 (**t'i̯u-*); Buck 14.41; BK 119 (**t'a^y-/*t'ə^y-*)]. OIr *dīa* 'day', Wels *dydd* 'day', Lat *diēs* 'day', Osc *zicolo-* 'day', Grk **ἔνδῑος** 'at mid-day', Arm *tiw* 'day', Hit *sīwatt-* 'day', OInd *dívā* 'during the day', *divasá-* 'day'. Words descended from **di̯e(u)-* 'day' are based on the root **dei̯u-* 'to shine' (cf. OInd *dī́deti* 'it shines'). Though **di̯ē-* is geographically diffused and is represented in three regional groups, the robust number of metaphorical extensions of this root and the obvious nature of the 'day' from 'shine' derivation suggest that **di̯ē-* may be dialectally independent and not of PIE date.

The root **dei̯u-* furnishes a number of lexical derivatives. In addition to 'day', there is 'see' (cf. Homeric **δέατο** 'he was being seen'), 'clear' (cf. Grk (Hesychius) **δίαλος** 'clear, certain'), 'sky' (cf. OInd *dyáuḥ*), 'heaven' (cf. OInd *divám*), and 'god' (cf. Grk **Ζεύς**, Lat *deus*, *Iūpiter*).

See also BURN; SHINE; SKY GOD; TIME. [P.B.]

DEAF

***bhodb̥$_x$rós** 'deaf'. [cf. *IEW* 112 (**bhāu-*); Buck 4.95]. OIr *bodar* 'deaf', Wels *byddar* 'deaf', OInd *badhirá-* 'deaf'. Though very sparsely attested, the exact equation in meaning and form of Celtic and Old Indic guarantees PIE status for this word. As a word designating an infirmity it was presumably subject to taboo or euphemistic replacement.

***mū-** 'dumb'. [*IEW* 751 (**mū-*); Wat 43 (**mu-*); Buck 4.96]. Lat *mūtus* 'dumb', Norw *mua* 'be silent', Grk (Hesychius) **μυκός** 'dumb', Arm *munǰ* 'dumb', OInd *mūka-* 'dumb'. The underlying **mū-* is probably sound-symbolic (from the gesture of compressing the lips), though it would appear to be at least of late PIE date.

Not to be able to speak is a serious disfunction in the IE context, also affecting the First Function area or zone, of the head, the tongue, and the powers of communication. Much of the evidence comes from the Celtic area, where Caesar noted that the druids privileged the spoken word over the written (*Bell. Gall.* 6.14), where "the first lie" in Ireland was

said to be an inscription on a sword, and where, in the mytholegendary atmosphere of the Welsh *Mabinogi*, warriors resuscitated in a Caldron of Regeneration can fight, but they cannot speak. To be dumb is, in fact, to be seen as dead (deafness would probably be included in this view); we note the widespread European folkloric belief concerning "seeing the wolf" (Grk ...*λύκος ἰδεῖν*), that is, if the wolf (the sign of death) is seen or sees someone, that person is struck dumb: loss of the power to communicate verbally is tantamount to loss of vitality, to dying.

See also Blind; Defect. [D.Q.A., D.A.M.]

DEATH

mer- 'die'. [*IEW* 735 (**mer-*); Wat 42 (**mer-*); GI 396 (**mer-*); Buck 4.75; BK 525 (**mir-/*mer-*)]. Lat *morior* 'die', Lith *mìrštu* 'die', Latv *mir̃stu* 'die', OCS *mьrǫ* 'die', Grk (Hesychius) *ἔμορτεν* (aorist) 'died', Arm *meṙanim* 'die', Hit *mer-* 'disappear, die off', Av *miryeite* 'dies', OInd *mriyáte* 'dies'. This is a very wide-spread verbal root in PIE (lacking only in Celtic, Albanian and Tocharian) and clearly of great antiquity. It has spawned a number of nominal derivatives, some of which are listed below:

mr̥tós 'dead; mortal'. [*IEW* 735 (**mr̥-tó-*); Wat 42 (**mr̥-to-*); Buck 4.75; BK 525 (**mir-/*mer-*)]. Lat *mortuus* 'dead', OCS *mrŭtvŭ* 'dead' (Latin and Slavic < **mr̥tu̯ós*, whose formation is analogical to the word for 'alive'), Grk *βροτός* 'person' (< *'mortal'), *ἄμβροτος* 'immortal', Arm *mard* 'person', Av *mərəta-* 'dead', OInd *mr̥tá-* 'dead'. Widespread PIE term for 'dead'.

mórtos 'person, mortal'. [*IEW* 735 (**mór-to-*); Wat 42 (**mer-*); GI 396 (**mer-*); BK 525 (**mir-/*mer-*)]. Grk (Hesychius) *μορτός* 'person; dead', Av *marəta-* 'person, mortal', OInd *márta-* 'person, mortal'. A late dialectal term in IE.

mr̥tís 'death'. [*IEW* 735 (**mr̥-ti-*); Wat 42 (**mr̥ti-*); Buck 4.75; BK 525 (**mir-/*mer-*)]. Lat *mors* 'death', Lith *mirtìs* 'death', OCS *sŭ-mrŭtĭ* 'death', Av *mərəti-* 'death', OInd *mr̥tyú-* 'death', and (only late attested) *mr̥ti-* 'death'. Distribution suggests PIE antiquity.

mr̥tóm 'death'. [*IEW* 735 (**mr̥-tó-m*); Wat 42 (**mer-*); Buck 4.75; BK 525 (**mir-/*mer-*)]. ON *morð* 'murder', OE *morð* 'murder, death, destruction', OHG *mord* 'murder', OInd *mr̥tá-* 'death'.

móros 'death'. [*IEW* 735 (**móro-s*); Wat 42 (**mer-*); BK 525 (**mir-/*mer-*)]. Lith *māras* 'pestilence, plague', OCS *morŭ* 'plague', Grk *μόρος* 'fate, doom, death', OInd *māra-* 'death'. A word of at least the center and east of the IE world.

nek̑- 'perish, die'. [*IEW* 762 (**nek̑-*); Wat 44 (**nek-*); GI 397 (**Hnek̑h-*); BK 557 (**nik[h]-/*nek[h]-*)]. Lat *necō* 'kill', *noceō* 'inflict injury', Av *nasyeiti* 'disappears', OInd *náśyati* 'is lost, disappears, perishes', TochA *näkṣtär* 'disappears, perishes', TochB *nakṣtär* 'disappears, perishes' (*nakṣäṃ* 'destroys'). Perhaps also here is the name of the Germanic chthonian goddess *Nehalennia*. Though not certainly found in Hittite, this word is also ancient in IE. Compare the following nominal derivatives:

nek̑- 'death'. [*IEW* 762 (**nek̑-*); Wat 44 (**nek-*); BK 557 (**nik[h]-/*nek[h]-*)]. OIr *écht* (< **n̥k̑ti-*) 'killing', Lat *nex* 'death', OE *ōht* (< **onk̑teh$_a$-*) 'hostile pursuit', Grk *νῶκαρ* 'coma', *νέκταρ* 'nectar' (< *'death conquering'), and possibly Hit *henkan-* 'death', though the *he-* is not well explained (the remains of a prefix?).

nék̑us 'death; dead'. [*IEW* 762 (**nek̑-*); Wat 44 (**nek-*); Buck 4.77; BK 557 (**nik[h]-/*nek[h]-*)]. OIr *éc* (< **n̥kü-*) 'death', Wels *angau* 'death', Grk *νέκυς* 'corpse; dead', Av *nasu-* 'corpse', TochA *oṅk* 'man', TochB *eṅkwe* 'man' (Toch < **n̥ku̯-ó-* 'mortal'). Distribution suggests PIE antiquity.

u̯el- 'die'. [*IEW* 1144 (**u̯el-*); Wat 76 (**welə-*); GI 723 (**wel-*)]. ON *valr* 'one who dies on the battlefield', *val-hǫll* 'Valhalla' (dwelling place of warriors fallen in battle), *val-kyrja* 'Valkyrie' (one who chooses from the slain those who go to dwell in Valhalla), OE *wæl* 'slaughter, carnage', (pl.) 'dead bodies', *wæl-cyrige* 'witch-sorceress', *wōl* 'pestilence, mortality, disease', OHG *wal* 'battlefield', *wuol* 'pestilence, destruction, overthrow', Lith *vėlė̃* 'soul, spirit', *vėlìnės* 'remembrance of the dead', *Veliuoka* 'god of the dead', Latv *velis* 'spirit of the dead', *velns* 'devil', *Veļu laiks* 'rite of remembrance of the dead', Ukr *valjava* 'body-covered battlefield', Czech *valěti* 'fight, make war upon', TochA *wäl-* 'die', *walu* 'dead'. Perhaps belonging here as well is Luv *walant(i)-* ~ *ulant(i)-* 'dead' though it might also be derived from **gʷel-*. More speculative is any connection with the Greek adjective *ἠλύσιον πεδίον* 'Elysian fields' (the abode of the dead). Certainly if the Luvian word belongs here, we have a word that was widespread and old in IE.

dhgʷhei- 'perish'. [*IEW* 487 (**gʷhðei(ə-)*)]. Grk *φθίνω* 'dwindle', OInd *kṣīyate* 'disappear, be destroyed' (*kṣiṇāti* 'destroys'). Cf. the derived **dhgʷhitis*: Lat *sitis* 'thirst', Grk *φθίσις* 'decay', OInd *kṣíti-* 'collapse'. With the exception of Lat *sitis* 'thirst', which may not belong here, the distribution suggests a late isogloss in IE.

dheu- 'die'. [*IEW* 260 (**dheu-*); Wat 14 (**dheu-*); Buck 4.75]. OIr *dīth* 'end, death', Lat *fūnus* 'burial', ON *deyja* 'die' (borrowed > NE *die*), OHG *tauwen* 'die', Goth *diwans* 'mortal', OCS *daviti* (< **dhōu̯eie/o-*) 'strangle', Arm *di* 'corpse'. Found in the west and center of the IE world. Perhaps from *'breathe one's last' and related to **dhu̯es-* 'breathe'.

néh$_a$u̯is 'corpse'. [*IEW* 756 (**nāu̯is*); Wat 43 (**nāu-*); GI 724 (**nāu-s-*); Buck 4.77; BK 568 (**na-/*nə-*)]. ON *nār* 'corpse', OE *nē(o)-* 'corpse', Goth *naus* 'corpse', OPrus *nowis* 'corpse', Lith *nõvė* 'oppression, torment of death, death', *nõvyti* 'oppress, destroy, extirpate', Latv *nâve* 'death', *nâvêt* 'kill, destroy', ORus *navĭ* 'corpse', TochA *nwām* (< **nu-eh$_a$-ment-*) 'sick'. In the sense of 'corpse' an innovation of the Germano-Balto-Slavic group. GI takes this word to be identical with the word for 'boat', hence a vessel that transports one to the afterlife.

See also Death Beliefs; Destroy; Extinguish; Underworld. [D.Q.A.]

Further Reading

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DEATH BELIEFS

The details of the Indo-Europeans' beliefs about death and the afterlife can be ascertained to a degree by testimony from comparative linguistics, inscriptions, religious texts, mythology, and archaeological evidence about funerary practices.

Burial

The traditions of the various IE stocks indicate that when a person died he or she was mourned by family and friends, and the body was prepared for cremation or inhumation. One of the few lexical sets possibly associated with burial is **sepeli̯e/o-* seen in Lat *sepeliō* 'bury', *sepulcrum* 'tomb', OInd *saparyáti* 'honors, upholds'. The word is a derivative of **sep-* 'handle (skillfully), hold (reverently)' [*IEW* 909 (**sep-*); Wat 58 (**sep-*); GI 728 (**sep*^{h}-)] as in Grk **ἕπω** 'serve, prepare', **μεθέπω ~ ἐφέπω** 'manage (horses)', Av *hap-* 'hold', OInd *sápati* 'touches, handles, caresses; venerates', *sápti-* 'team of horses'.

During the early historical period, inhumation was more common among most IE groups than cremation, although the latter was also accepted in many cultures and preferred in India and Iran. In other areas such as Homeric Greece and Scandinavia, cremation was sometimes a special honor accorded to heroes. The variation in funeral rites over both space and time, however, militates against any attempt to reconstruct an "original" PIE burial mode through an analysis of the burial rites of the various IE stocks. All that can be said is that an IE origin set at any time up to about the fourth or third millennium BC would more likely comprise inhumation rather than cremation, which at that time was less widely employed and more common in peripheral areas of Europe. As for the former, inhumation was generally soon after death; however, there is sporadic evidence from the Atlantic to Asia of secondary burial of the deceased after the flesh had been removed, either through exposure (to the elements or birds or slower decay in a charnel house) or the assistance of flint tools where the flesh would be cleaned from the bones. The range of burial modes is also considerable: flat graves, megalithic tombs, earthen barrows, both elongated or circular, are encountered in various regions of Eurasia. In addition to the actual burials there are in some IE traditions evidence of sacrificial pits associated with the graves of presumably renowned persons, e.g., at Mycenae and earlier sites in Greece, in Hittite (Hattic and Hurrian) texts and at the Hittite site of Gedikli, and some earlier Yamna sites in the north Pontic region. But without decisive linguistic evidence it is impossible to determine which if any of these may have applied specifically to the Proto-Indo-Europeans. It should also be added that in the discussion below concerning various IE themes, the different IE traditions present such a variety of beliefs and approaches to death and the otherworld that one may well suspect that there was also considerable variety in death beliefs among the Proto-Indo-Europeans as well.

Among the various IE stocks, the final disposition of the body was accompanied by religious rituals, aimed at ensuring the future well-being of the dead person's spirit, and sacrifices of drink, food, or animals. Grave gifts of weapons, tools, clothing, jewellery, household objects, food, and drink were commonly placed with the body; money was not usually offered except as a coin or two to pay the otherworldly ferryman in Greek and Roman tradition. Further sacrifices were often made after the funeral, both at specified intervals following the rites (most commonly three, nine, thirty, and forty days after the death, and thereafter at yearly intervals) and on particular festival days honoring the spirits of the dead (e.g., the third day of the Greek Anthestēria, a spring festival; the Roman Diēs Parentālēs; German Feasts of the Dead). The soul maintained a strong link with the burial place, where the libations and sacrifices were usually performed. In some IE stocks, those who died without descendants to sacrifice to them were condemned to eternal hunger; a desire to avoid this promoted reverence for one's ancestors, a higher birth rate, and (in some cases) the practice of adoption if there were no offspring in a marriage.

Afterworld

Evidence from the different IE groups suggests a Proto-Indo-European belief that, after the inhumation or cremation of the corpse, the spirit of the dead person made a journey culminating in crossing a river or climbing a hill to reach an afterlife. In this afterworld, ruled by a deity or deified human and inhabited by other more minor deities, the souls of the dead carried on their existence, occasionally returning to the world of the living as ghosts, but more often simply receiving gifts or sacrifices from their survivors and descendants. In different cultures, the soul's journey to the afterworld may begin at the moment of death, at the completion of a prescribed ceremony or ritual, or at the dissolution of the body, whether by fire or by natural decay. Primary evidence for the death journey is found in various originally slang or euphemistic terms for death and dying which are derived from words meaning 'go' (e.g., ****leit(h_x)-*** 'go forth' which gives ON *liðinn*, 'dead', *leiði* 'tomb', Goth (causative) *-leiþan*, Av *raēθ-* 'die'; and **g*^{w}*eh*$_a$*-* 'go' which yields OIr *baid* 'he dies' and *at-bath* 'died', *at-bail(l)* 'vanishes, perishes', *bās* 'death', Wels *bad* 'plague'. Another linguistic pointer is the prevalency of euphemisms for dying or killing formed from terms meaning 'put' or 'bring' compounded with prepositions to give a sense of movement from one place to another (e.g., Lat *interficiō* 'put between, kill' and *intereō* and *pereō* 'die', Goth *usqiman* 'die', OInd *antar dhā-* 'do in, kill').

Rituals and grave gifts also attest to the concept of the journey: the Vedic *śraddhā* ceremony is repeated at frequent intervals for a year or two to provide the soul with food on its travels, then discontinued when the soul is presumed to have arrived. Vedic hymns adjure the soul to 'follow the path' to

the afterworld. In Hittite funeral ritual, priests were responsible for smoothing the path to be followed by the soul with a mixture of honey, tallow, and oil. The souls of the dead in Iranian belief must cross the narrow Chinvat bridge spanning an abyss. In Greek mythology, the soul walked to the river boundary of Hādēs, where the ferryman Kharōn was waiting.

It has been suggested that this last motif reflects a PIE belief that the soul was transported into the afterlife by an old man, death personified, who served as a ferryman. The motif is not only present in Greek myth where Kharōn is consistently depicted as an 'old man' (*γέρων* < PIE **ĝerh$_a$-* 'to age, mature') but also in Old Norse sources where one encounters a *karl* (< **ĝerh$_a$-*) '(old) man' ferrying the body of Sinfjǫtli across a fjord (*Vǫlsunga Saga* 10). In Celtic tradition we find Barinthus (< **Barrfind* 'head-white'), the ferryman who carries Arthur's body to Geoffrey of Monmouth's Fortunata. The motif of a ferryman is also known in Indo-Iranian and Slavic tradition but here his role is more concerned with carrying the "saved" to a happy afterlife rather than simply conveying all the dead to the next world. Yet there are still a number of similarities with the concept of a white-haired and bearded old man that Bruce Lincoln has postulated a PIE belief concerning **ĝerh$_a$ont-* 'old man' as ferryman of the dead.

The river of the otherworld has also been analyzed in comparative terms and it has been suggested that a number of IE traditions are variations on an original theme. The well-known river of the Greek otherworld, Lēthē, washed away memories while the Vijarā of Indic tradition washed away both good and bad deeds. On the other hand, there are also lakes and springs such as the spring of the Norse Mīmir which imparts great wisdom as do certain springs or lakes in Irish tradition. On such a basis, Bruce Lincoln has suggested that there was a PIE tradition that envisaged the dead having their memories washed away by a river of the otherworld. These memories were then carried by the river into a spring from whence certain chosen ones might drink and draw the accumulated wisdom of the departed.

The soul of an unburied Greek was unable to make the river crossing and could only wait outside the gates of the afterworld. Early Attic tombs often contain clay models of boats provided for the journey. Italian funerary monuments and tomb paintings from the sixth through fourth centuries BC show the deceased traveling on horseback or in a chariot to the afterworld, although this may be influenced by the Etruscan substrate. Nevertheless, the motif of conveyance to the site of burial by a wheeled vehicle is widespread among many IE stocks not only in the historic period but also among their presumable prehistoric ancestors. Chariots or wagons are found in the graves of the Celts and Iranians of the steppe (attested both in Scythian royal burials and in the writings of Herodotus) and the motif is depicted in art among both the Italic peoples and ancient Greeks. In prehistoric contexts such wagon burials are known in the Iron Age Hallstatt and La Tène cultures in the west and in burials spanning the Bronze Age in eastern Europe, either in the form of actual wagon burials in the late Yamna, Catacomb, and other cultures of the steppe and forest-steppe or in the form of clay models in the Baden culture of the Danube basin.

In literature, the Romans were heavily influenced by the Greek mythology of the journey, with few original touches. However, in an older Italic (and Etruscan) tradition the soul remained closely tied to the actual grave or tomb, which was often decorated and furnished inside to provide a home-like atmosphere. Tomb inscriptions often evince concern about the safety of the tomb and the bones; violating a grave was a criminal offense; and the tomb's owner frequently made provisions against the sale or transmission by inheritance of the tomb. In Baltic, Slavic, and steppe Iranian areas the tomb is also often decorated like a house, with lavish funeral gifts. Frequently a supply of horses, carts, and harness suggests provisions for a journey to the afterlife and a prosperous existence there. Scandinavian evidence again has the spirit of the dead person closely associated with the grave while an apparently separate soul inhabits either Hel, the underworld, or Valhalla, the warriors' paradise. Those who died in battle were taken immediately to Valhalla by the Valkyries. As befits a seafaring people, the afterworld may also be reached by sailing; the well-known image of the Viking funeral via a burning ship dates back to the Bronze Age. For those too poor to ride, grave gifts included wagons for the transport of the soul or Hel-shoes for the long and arduous walk. A bridge, a river, and a great gate all stand as obstacles to the pilgrim soul. Although the Celtic traditions concerning the afterworld are confusing and contradictory, the concept of the soul's journey is clearly present. Literary evidence deals mostly with two coexisting traditions of water journeys to an island afterworld or otherworld and access to an underworld through a mound or hill (OIr *sīd*, cf. the NE loan *banshee* 'woman of the *sidh*').

That the afterworld was surrounded by an earthen wall or enclosure is widely found in IE tradition where a range of IE terms relating to 'enclosure', 'fort' or 'wall' are employed in depicting the place where mortals go after death. For example, from PIE **ghórdhos* 'hedge, fence, enclosure', ON (pl.) *garðar* is employed to describe the surrounding walls of the realm of Hel, the goddess of death; the Av *gərəδa* is employed in the *Avesta* to denote the cave of demons associated with pollution by death, and OInd (acc. sg.) *mṛnmáyam gṛhám* 'house of clay' is used to indicate where one goes after death. Indo-Iranian tradition also employs Indo-Iranian **saitu-* 'boundary wall' (Av *haētu-*, OInd *sétu-*) to indicate the wall surrounding paradise (cf. NE *paradise* from Iranian 'that which is walled around') while other terms normally indicating a fort or wall are found in other IE stocks. It has been tentatively suggested that the concept of the earthen wall as a boundary between the living and the dead may also derive from the practice of tumulus burial where the house-like construction that contained the body of the deceased was separated from the world of the living by the earthen walls of the mound.

Once the journey was accomplished and the barriers of

water or earth had been surmounted, the soul was believed to exist eternally in the afterworld. The presumed location of the afterworld varies according to the geographical situation of each stock of the Indo-Europeans. A subterranean world is depicted in Greek, Roman, Germanic, Celtic, and probably Hittite belief, supplemented by an afterworld which could be reached variously by travelling west over sea for the Greeks, Celts, and Balts; north by land or sea for the Germanic people and again the Greeks; and south for Indic people. Since there is also some textual evidence for an afterworld in the south in Celtic (the location of the Tech Duinn 'house of Donn' who is the first king of the early Irish afterworld), Germanic (Ōdāinsakr, the 'land of the living' beyond India) as well as Indic, it has been suggested that this is the direction of the IE afterworld itself but there are so many variations that such an assertion is exceedingly difficult to demonstrate. Many branches of IE, among them Hittite, Germanic, Indic, Iranian, Baltic, and Thracian, also believed that the souls of the dead resided in the sky. In fact, the only direction which did not lead to an afterworld for some group of Indo-Europeans was east.

It has been argued on the basis of a number of IE traditions that the afterworld or the deceased was ruled by a "lord of the dead" who was also the 'Twin' of the IE cosmogonic myth. This relationship is most clearly indicated in the Indic tradition where Yama, the first king and etymologically equivalent with 'twin', reigns over the departed. His Iranian equivalent Yima was also first man and king and although the religion of Zaraθuštra deprived him of his original role, it is recollected in part in the story of how he built an underground enclosure to house humans, beast and plants through a mythic winter. In Irish tradition we encounter Donn, one of a set of brothers, who has a house across the sea where the dead are gathered and one of the names of the Irish afterworld is Emain Ablach, the first element of which reprises the IE word for twin (OIr *emon* 'twin'). 'Twin' is found again in Old Norse tradition where the functional if not lexically cognate Ymir, who is part of the cosmogonic creation of the world, has his land in the south, the direction of the Norse afterworld.

While there was no concept of punishment for sins or reward for virtue *per se*, the afterworld took different forms in different IE branches. It could be pleasant, featuring reunions with ancestors, abundant food, and enjoyable activities, as in Indic, Iranian, Hittite, Greek, Germanic, and Celtic tradition, or merely a dull waiting period, as in Hittite, Greek, Roman, and Germanic, during which the souls felt nothing but suffered if neglected by their descendants. It has been observed that descriptions of the more pleasant afterworld in IE literature tends to stress more what it does not possess—sorrow, labor, pain, disease, hunger, etc.—than what it does. Its southerly direction, at least according to some IE traditions, is then held to be more congruent with a northern homeland for the Indo-Europeans who would look to the warmer climates of the south for a model of their more pleasant afterlife. Sometimes both types of afterworld are present in the same culture, possibly representing a PIE distinction between the pleasant afterworld designed to induce heroes to sacrifice themselves in battle for the people, and the somber underworld with its reminder of the seasonal cycle of birth and death for women and the common people, who needed a reminder of their duty to produce descendants but were not to be encouraged to die young.

Through the great variation in IE afterworlds, one has been suggested as having PIE status. In Anatolian, specifically Hittite belief, one finds the expression *nu-war-a-si-san sarrizzi hannari le kuiski* 'let none seize it (= *wēllu-* 'pasture, meadow')', which finds a Vedic (*RV* 10.14.2) echo in *naísā gávyūtir ápabhartavá u* 'this cow pasture is not to be taken away', both suggesting that the afterworld is modeled on a pasture or meadow. The lexical support for assigning this motif to PIE requires an association between words meaning 'die' (e.g., ON *valr* 'one who dies on the battlefield', *val-hǫll* 'Valhalla', Lith *vėlinės* 'remembrance of the dead', Latv *Veḷu laiks* 'rite of remembrance of the dead', TochA *walu* 'dead', which are from **u̯el-* and the element **u̯el-* which may underlie **u̯élsu-* indicating a 'meadow, pasture' (e.g., ORus *Volosŭ* (< **u̯ol-su-*) 'cattle god = deified pasture', Greek *'Ηλύσιον πεδίον* 'meadowy field' = Greek otherworld, and Hit *wellu-* (< **u̯el-nu-*) 'meadow'. As there is no synchronic derivational relationship between 'dying' and 'meadow' in any IE stock, however, and the semantic development 'place of the dead' > 'meadow' seems rather obscure, these two roots are more likely to be independent of one another.

In addition to the more "pragmatic" approach to death, various IE traditions reflect a more philosophical approach founded within the IE cosmogonic scheme where the human body is an alloform of the cosmos. And just as in the IE creation myth, where the universe is constructed out of the constituent elements of a primordial giant (or cow), death is seen as a return of the body back into the elements from whence it originally derived. In the *R̥gveda* (10.16.3), for example, the deceased is informed by the priest that in death the eye must return to the sun, the self or spirit to the wind while in Euripides *Suppliants* (531-534), on burial of the corpses, the body is expected to return to the earth and the breath to the aether. Such an extension of the IE cosmogonic myth is found in other IE traditions and points to an explicit belief that the world is essentially timeless, living things being created out of the substance of the material world (stones, grass, water, wind, etc.) and then dissolving back into their constituent elements on death only to be reassembled, i.e., born, again.

See also COSMOGONY; DEATH; ESCHATOLOGY; HELL-HOUND; UNDERWORLD. [L.J.H., J.P.M.]

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DEBT *see* COMPENSATION

DECEIVE

dhreugh- 'deceive'. [*IEW* 276 (**dhreugh-*); Wat 15 (**dhreugh-*); Buck 16.68]. OHG *triogan* 'deceive', Av *družaiti* 'lies, deceives', OInd *drúhyati* 'harms, is hostile to'; also MIr *aur-frach* 'ghost, spectre', ON *draugr* 'ghost, spectre', Av *draoga-* 'lie, deceit', OInd *dhrógha-* 'injury, harm'. Cf. ON *draumr* 'dream', OHG *troum* 'dream' (< *[false] vision'). Found only on the western and eastern extremes of the IE world, its distribution would seem to assure its PIE status.

(s)u̯eig- 'deceive'. [cf. VW 568]. ON *svīkva, svīkja* 'deceive, betray', *svik* (pl.) 'betrayal, fraud', OE *swīcan ~ swīc(i)an* 'betray; wander off; offend', *swic* 'deceit, treachery; illusion', TochA *wek-* 'to lie', TochB *waike* 'lie'. The apparent agreement of Germanic and Tocharian would make likely the PIE status of this word.

kel- 'deceive'. [*IEW* 551 (**kēl-*); Wat 28 (**kel-*)]. Lat *calvor ~ calvō* 'deceive', *calumnia* 'deception, calumny', ON *hōl* 'praise, boasting', *hœla* 'praise, boast', OE *hōl* 'slander', *hōlian ~ hēlan* 'slander', OHG *huolan* 'deceive', Grk *κηλέω* 'bewitch, deceive', *κόλαξ* 'flatterer'. At least a late PIE word in the west and center of the IE world.

(s)mel- 'deceive'. [*IEW* 719–720 (**mel-*)]. Lith *mélas* (dialectally *mãlas*) 'lie', Latv *męli* 'lie', Arm *meł* 'sin', Av *mairya-* 'deceitful', TochA *smale* 'lie'. Distribution suggests at least late PIE status.

meug- '± cheat, deceive'. [*IEW* 743–744 (**meug-*); Wat 42 (**meug-*)]. OIr *formūchtha ~ for-mūigthe* 'smothered, concealed', Lat *muger* 'dice cheat', ME *micher* 'thief' (> NE *meecher*), OHG *mūhhari* 'highwayman'. Western isogloss in late IE.

meh$_a$- '± wave (the hand), trick (with the hand)'. [*IEW* 693 (**mā-*)]. Lith *móju* 'wave, signal with the hand', Latv *māt* 'wave with the hand', *mãdīt* 'wave, signal with the hand', OCS *(na)majati* 'nod, beckon to', Rus *ob-manútī* 'trick, deceive', OInd *māyā́* 'trick, illusion', TochA *māsk-* 'switch, juggle'. A word, apparently, of the center and east of the IE world.

?*meng- '± charm, deceive'. [*IEW* 731 (**meng-*); Buck 16.68]. MIr *meng* 'deceit, guile', Grk *μάγγανον* 'charm, philtre', *μαγγανεία* 'trickery', Oss *mæng* 'deceit'. If all these words belong together, then their geographical spread would indicate PIE status for the group.

See also LIE². [D.Q.A.]

DEEP

dheub- 'deep'. [*IEW* 267–268 (**dheu-b- ~ *dheu-p-*); Wat 14 (**dheub-*); GI 6; Buck 12.67]. OIr *domain* 'deep', Wels *dwfn* 'deep' (< Celt **dub-no*), ON *djūpr* 'deep', OE *dēop* 'deep' (> NE *deep*), OHG *tiof* 'deep', Goth *diups* 'deep' (< Gmc **deupaz*), Lith *dubùs* 'deep', Latv *duõbjš* 'deep', OCS *dŭno* (< PIE **dubno-*) 'ground, floor' *dŭbrŭ* 'ravine, valley', Alb *det* 'sea' (< **dhéubetos*), TochA *tpär* 'high', TochB *tapre* 'high' (Toch < **dhubrós*). Grk *βυθός* 'depth, bottom of the sea' is highly unlikely and the Celtic forms have been questioned. This item has sometimes been regarded as a (possibly substratal) northwesternism, but the plausible Albanian and Tocharian connections would secure IE status which is of particular importance since this would represent a relatively strong case for the rare PIE **b*. Probably also with a nasal infix is OIr *domun* 'world', Corn *down* 'deep', NE *dump* 'deep hole in pond', OHG *tumpfilo* 'deep place in water', Lith *dum̃blas* 'slime'. With final voiceless stop as **dheup-* 'deep': ON *dūfa* 'dive', OE *dūfan ~ dȳfan* 'dive' (> NE *dive*), OCS *dupina* 'cave'.

See also DIVE; LAKE. [J.C.S.]

DEER

$h_1$elh$_1$én (gen. ***$h_1$elh$_1$nós***) '(British English) red deer/ (North American English) elk or wapiti (*Cervus elaphus*)'. [IEW 303–304 (**el-en-*); Wat 16–17 (**el-*); GI 437 (**el-en-*); Buck 3.75; BK 452 (**il-/*el-*)]. Lith *ellenis* 'elk/ moose; red deer/elk', *élnis ~ élnias* 'elk/moose (*Alces alces*)'; (in central Lithuania) 'red deer/elk (*Cervus elaphus*), stag', Latv *al̃nis* 'elk/moose (*Alces alces*)', OCS *(j)elenī* (pl. *(j)elene*) 'red deer/elk (*Cervus elaphus*), stag', Rus *oléní* 'red deer/elk (*Cervus elaphus*), stag', Bulg (dial.) *alné* 'young chamois', Myc *e-ra-pi-ja* 'pertaining to deer', Grk *ἔλαφος* (< **$h_1$elh$_1$n̥bhos*) 'red deer/elk (*Cervus elaphus*)', *ἐλλός* (< **$h_1$elh$_1$nós*) 'young of (red) deer, fawn', (Hesychius) *ἔνελος* (< **$h_1$elh$_1$eno-* by metathesis) 'young of (red) deer, fawn', Arm *eɫn* (gen. *eɫin*) 'hind', TochA *yäl* 'gazelle', TochB *yal* 'gazelle' (the Tocharian probably = 'goitered/Persian gazelle [*Gazella subgutturosa*]'). Perhaps belonging here ScotsGael *lon* (< **$h_1$lh$_1$onos*) 'elk/ moose (*Alces alces*)' and perhaps ON *lamb* 'lamb', OE *lamb* 'lamb' (> NE *lamb*), OHG *lamb* 'lamb', Goth *lamb* 'lamb', if the latter set is from **$h_1$lh$_1$onbhos*, a derivative with new full-grade of the *$h_1$elh$_1$n̥bhos* seen in Grk *ἔλαφος*, and once meant *'young of any animal' < *'fawn'. Possibly belonging here as well is Lat *īnuleus ~ hinnuleus* (the latter form influenced by *hinnus* 'mule') 'young roebuck' if with the same metathesis of **-l-* and **-n-* as we see in Grk *ἔνελος* 'fawn'. Also sometimes connected is Hit *aliya(n)-* 'lamb' but this word is more likely to be an inner-Hittite creation from *ali-* '(soft) wool'. Widespread and old in IE. The semantic development

seen in Tocharian presumably results from the movement of the pre-Tocharian speakers to the east, out of the territory where red deer/elk are native and the assignment of the word to perceptually similar game animals (i.e., *'red deer' > *'game animal' > 'gazelle'). Often this word is taken as a derivative of *h_1*el-* 'brown' seen in OHG *elo* 'brown, reddish yellow', Av *aurusa-* 'white', OInd *aruṣá-* 'reddish, flame-colored', *aruṇá-* 'reddish'. Certainly such an assumption makes a good deal of semantic sense (cf. British English 'red deer'). However, one should note that the color-term is always with a **-u-*, i.e., *h_1*elu-*, which the animal designation always lacks and that the color-term occurs in IE stocks that do not have the animal term.

***$h_1$elh$_1$ń̥h$_a$-** 'hind/cow-elk (adult female *Cervus elaphus*)'. [*IEW* 303–304 (**elənī*); BK 452 (**il-/*el-*)]. Wels *elain* 'hind', OPrus *alne* 'animal' (< *'hind'), Lith *álnė ~ élnė* 'hind', OCS *lani ~ alni* 'hind', Rus *lanĭ* 'hind', (dial.) *alynjá* 'cow' (the initial **a-* of the Baltic and Slavic words is probably an internal development in those stocks). Cf. OIr *elit* (< *h_1*elh*$_1$*n̥ti-*) 'doe, hind'. A feminine noun regularly derived from the preceding word. At least a word of the west and center of the IE world.

?*bhrentós 'stag'. [*IEW* 168–169 (**bhren-to-s*); Buck 3.75]. Norw *bringe* 'stag', Swed *brinde* 'stag', Messapic *βρένδον* 'stag'. Cf. Norw *brund* (< **bhr̥ntós*) 'male reindeer'. Derivatives of **bhr̥nos* seen in Alb *bri* (Gheg *brī*) 'horn'. Perhaps a word of the west and center of the IE world.

??*b(h)roid(h)is 'red deer; elk'. [cf. Buck 3.75]. OPrus *braydis* 'elk/moose (*Alces alces*)', Lith *bríedis* 'stag, hart (*Cervus elaphus*)'; (in central Lithuania) 'elk/moose (*Alces alces*)', Latv *briêdis* 'red deer/elk (*Cervus elaphus*)', OCS *a-brědĭ* 'grasshopper' (< *'like a stag'). Apparently limited to only Baltic and Slavic; doubtful antiquity.

The red deer (*Cervus elaphus*) is ubiquitous across most of Eurasia although its historical range only extended as far south as the southern slopes of the Himalayas, i.e., it includes Iran, Afghanistan and Kashmir, Sikkim and Bhutan but not further south. It was one of the primary animals hunted in both the Mesolithic and Neolithic and in later periods from Ireland to across much of Asia. There is probably no postulated homeland in which the Indo-Europeans would not have regularly hunted the red deer. It was exploited not only for its meat (adult sizes range from 130 to 300 kg) and hide but antler and bones which provided material for tool manufacture and its teeth were often made into ornaments.

***i̯órks** 'roedeer (*Capreolus capreolus*)'. [*IEW* 513 (**i̯ork-*)]. Wels *iwrch* (with not well explained vowel) 'roebuck', Corn *yorgh* 'roebuck', Grk *ζόρξ* 'roedeer (in Europe), gazelle (in the African colonies)', (Hesychius) *ἴορκος* 'roebuck' (probably a word of the Celtic Galatians). A remarkable Greek-Celtic correspondence which would seem to assure this word PIE status at least in the west and center of the IE world. Witczak has recently suggested that the Germanic words for roedeer also belong here. Proto-Germanic apparently had **raihas* 'roedeer' (> OHG *reh* 'roedeer'), **raihō* 'roedeer' (> ON *rā* 'roedeer', OHG *reha* 'roedeer'), and **raihan-* 'roebuck' (> OE *rā ~ rāha* 'roebuck' [> NE *roe*], OHG *reho* 'roebuck'). Witczak takes the Proto-Gmc **raiha-* as reflecting a late PIE **roikos* by metathesis from **i̯orkos*. This species has rather short antlers that do not branch elaborately; thus it is not too surprising that the word might be readily transferred in Greek to the gazelle. One might note that the zoological name, *capreolus*, is the Latin word for roedeer and it is transparently a derivative of *capra* 'goat'.

The roedeer (*Capreolus capreolus*) is found across much of Eurasia but not south of Iran and northern Iraq and it is unknown from northwest India. It is regularly known from European Neolithic sites, although usually in amounts considerably less than those of the much larger red deer. In general, most IE stocks, other than Indic, who knew the red deer are also likely to have exploited the roedeer as well.

Among the *Cervidae* with whom some of the early Indo-Europeans would have come into contact there is also the fallow deer (*Dama dama*) whose natural distribution would have included the Mediterranean, southeast Balkans, and Anatolia while the Persian fallow deer (*Dama mesopotamica*) occupied western Asia. The animal is very infrequently found on European sites and apparently lacks any significant lexical antiquity. It appears to have been deliberately imported into Cyprus and Crete by the Bronze Age. It was kept enclosed by both the Hittites and Greeks and later in Italy and Gaul. The barasingha or swamp deer (*Cervus duvauceli*) and the chital or spotted deer (*Axis axis*) appear in the early Neolithic of Baluchistan.

See also **Elk**; **Mammals**. [D.Q.A., J.P.M.]

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DEFECT

Moral

***melos** 'bad' and ***méles-** 'fault, mistake'. [*IEW* 719 (**mel-*); Wat 40 (**mel-*)]. MIr *mell* (< **melso-*) 'mistake', Lat *malus* 'bad', Lith *mẽlas* 'lie', Latv *mẹ̄li* 'lie', Grk *μέλεος* 'miserable, fruitless, vain', Arm *mełk'* 'sin', Av *mairya-* (an epithet of evil beings). From **mel-* 'fail'. It is not certain that all the forms given here belong together. If they do, they provide good evidence for a word for 'moral flaw' or the like, at least in late PIE.

Physical

***mendo/eh$_a$-** '± (bodily) defect'. [*IEW* 729–730 (**mend(ā, -om)*); Wat 41 (**mend-*)]. OIr *mennar* 'spot, stain', Lat *menda* 'bodily defect', *mendum* 'fault, error, mistake', Lycian *mẽte-* 'damage, harm', OInd *mindā́* 'defect of the body' (crossed with *nindā́* 'abuse, slander'?). A good semantic match from both ends of the IE world, though weaker phonologically. Probably of late PIE status.

***lord(sk̑)os** 'crooked of body'. [*IEW* 679 (**lord-sk̑o-*); Wat 36 (**lerd-*)]. ScotsGael *lorcach* (< **lor(d)sk̑ākos*) 'lame', MHG *lërz* 'left', Grk *λορδός* 'bent backwards, so that the front of the body is convex', Arm *lorc'-k'* (< **lor(d)-sk̑-[i]*) 'bent backwards, so that the front of the body is convex'. From **lerd-* 'bend'. Sufficiently widely attested that it is probable we have at least a late IE word.

***(s)keng-** 'limp'. [*IEW* 930 (**(s)keng-*); Wat 59 (**skeng-*); Buck 4.94; BK 261 (**k[h]un-k'-/*k[h]on-k'-*)]. ON *skakkr* 'awry, twisted', OHG *hinkan* 'limp', Grk *σκάζω* 'limp', OInd *kañj-* 'limp', *khañja-* 'lame' (*khañj(a)-* a Middle Indicism for **skañj(a)-*). A reasonably well-attested group of PIE date.

***sromós** 'lame'. [*IEW* 1004 (**srō/omo-*); Buck 4.94]. OCS *chromŭ* 'lame', Rus *khromój* 'lame', OInd *srāmá-* 'lame'. The underlying verb appears only in OCS *o-chrŭmǫ* 'they became lame'. The initial *chr-* of Slavic may suggest the influence of an (unattested) Iranian cognate **hrama-*. Probably an "easternism" in late PIE.

***skauros** '± lame'. [Buck 4.94]. Lat *scaurus* 'clubfooted', OInd *khora-* (~ *khoṭa-* ~ *khoḍa-*) 'lame' (*khora-* a Middle Indicism for **skor-*). If these words belong together, we have evidence for at least a late PIE term. However, it is also possible that they are independent formations or borrowings in the two languages.

As injuries to the head and the senses are usually tied to the First Function, and injuries to the arms or hands or torso are tied to the Second Function, so the lower part of the human body is allocated to the Third Function, and wounds and injuries there are conceived of as attacking that function, and the powers of generation and male sexuality generally. Injuries to the leg or knee (note Lat *genū* 'knee' and *genō* 'beget') are transferred to the male generative powers, and can diminish them. However, a more flexible symbolic usage seems to dictate the widespread belief that an artificer, such as a smith—an ambiguous figure but one who in this case can be fitted into the Third Function—has sacrificed bodily integrity for his quasi-magical powers of material transformation. The smith is often seen as dwarfish or crippled in his lower limbs or, at least, unable to pass on his power and the mastery of his art to any children of his own, though he may be very often found in the IE sources as a fostering figure, protecting, raising and training a son not his own.

See also BLIND; DEAF. [D.Q.A., D.A.M.]

DEGREES OF DESCENT

***pro-** third generation marker. [*IEW* 813 (**pro-*); Wordick 249]. Wels *or-wyr* 'great-grandson', Lat *pro-avus* 'great-grandfather', *pro-nepōs* 'great-grandson', OHG *fer-nefo* 'great-grandson', Lith *pró-anūkis* 'great-grandson', Rus *prá-vnuk* 'great-grandson', Grk *πρόπαππος προέγγονος* 'great-grandson', OInd *prá-napāt* 'great-grandson'. Widespread and old in IE.

***h₄ep-** fourth generation marker. [*IEW* 323 (**epi*); Wordick 249–250]. Lat *ab-avus* 'great-great-grandfather', *ab-nepōs* 'great-great-grandson', OE *of-spring* 'offspring' (> NE *offspring*), Grk *ἀπό-παππος ἀπ-έγγονος* 'descendant', OPers *ap-anyāka-* 'great-great-grandfather', OInd *áp-atyam* 'offspring'. Sufficiently widespread to support PIE status.

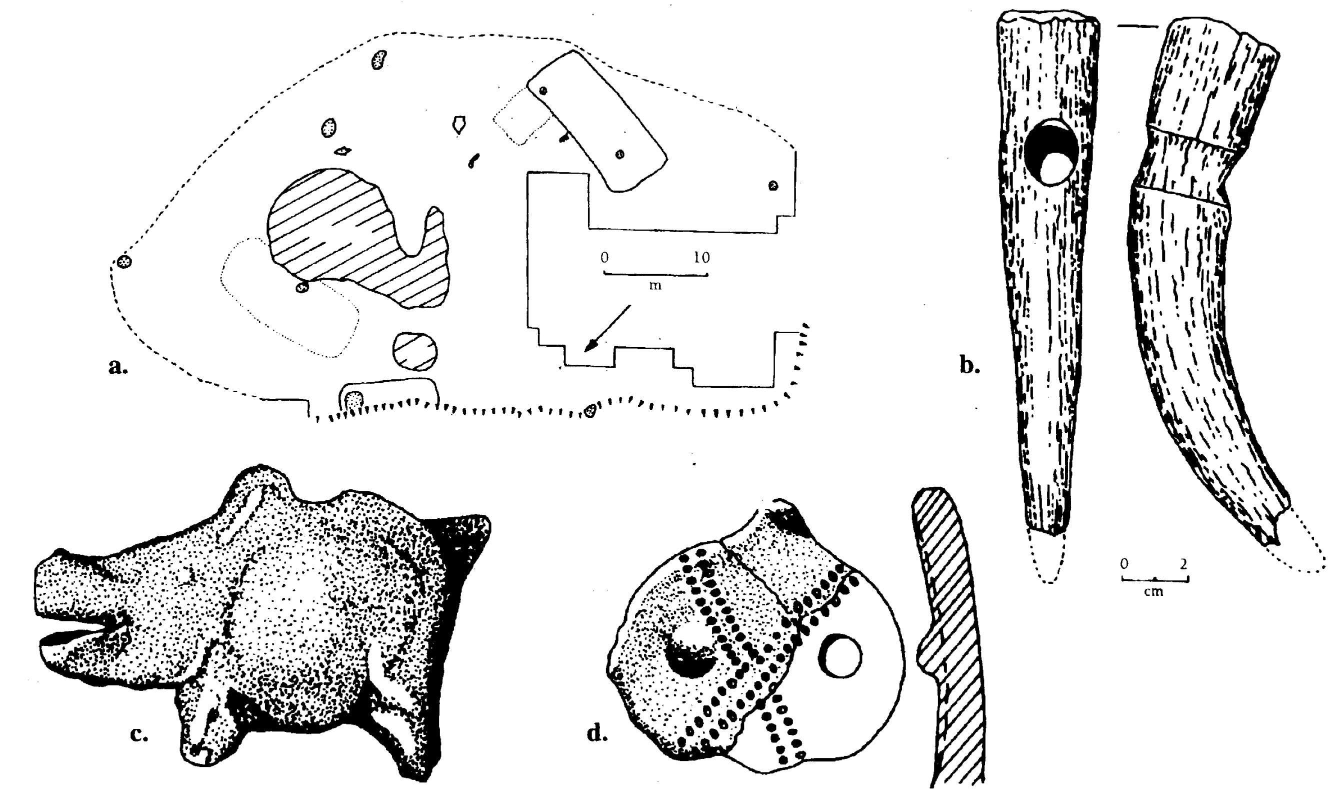
?*hₐet- fifth generation marker. [*IEW* 344 (**eti*); Wordick 250]. Lat *at-avus* 'great-great-great-grandfather', *ad-nepōs* 'great-great-great-grandson'. OInd *ati-vṛddhaprapitamaha-* 'great-great-great-grandfather' has been placed here as well but this is very dubious in that it is more transparently explained as a compound of **ati-vṛddha-* 'very old' with *ati-* < PIE **h₁eti* 'beyond'. If this explanation for the Old Indic word is correct, we are left with evidence only from Latin. And as Lat *atavus* has plausibly been taken as a compound of *atta* 'grandfather' and *avus* 'grandfather', the likelihood that we have anything of PIE date is very doubtful.

PIE employed distinctive kinship terms only to the second ascending or descending generation, the grandparents and grandchildren. Remoter degrees of kinship were signaled by locational compounds. There is reasonably strong evidence that **pro-* was used to mark the third ascending and descending generation, while **h₄ep-* marked the fourth ascending or descending generation. Markers of remoter generations are much more suspect. There are traces of a "competing" system, at least for ascending generations in Hit *dān attas* 'grandfather' (lit. 'twice father') and Lat **bis-avolus* (cf. Spanish *bisabuelo*, etc.) 'great-grandfather' (lit. 'twice grandfather').

See also DESCENDANT; KINSHIP. [M.E.H.]

DEREIVKA

Dereivka is a site of the Sredny Stog culture on a tributary of the middle Dnieper and dates to *c* 4500–3500 BC. The site consists of both a settlement and cemetery and has been presented as an archetypal Proto-Indo-European settlement by supporters of the "Kurgan solution" to the IE homeland problem. The settlement attests several structures, timber-built houses about 10 x 6 m in size, purportedly enclosed by a fence. The faunal remains consist predominantly of horse. Other species are domestic cattle, sheep/goat, pig and dog as well as wild species (red deer, roedeer, wild pig, elk, badger, bear, otter, wolf, fox, beaver, hare), a variety of birds (mallard, pintail duck, goose, teal, coot), and fish (silurus, perch, roach, red-eye, carp, and pike). Remains of over thirty tortoises were also recovered. The horse remains from Dereivka, which numbered at least fifty-two individuals, are widely regarded as critical for determining the origins of the domestic horse. One of the most important finds in the site was that of the skull of a stallion, accompanied by the forelegs of another individual and also the remains of a dog. The horses were originally identified as domesticated on morphological grounds (size) and age-slaughter pattern but recent analysis has declared them to be wild horses. The stallion, however, has been the major point of contention as it has been deemed domestic because of the dental evidence for the use of a horse bit (the other horses did not show such a pattern). Still others have suggested that the skull of the stallion derived from a



Dereivka a. Plan of Dereivka settlement with remains of rectangular houses ; b. Antler implement (cheek-piece?); c. Figurine of boar; d. Figurine.

later period and that there is no evidence for domestic horses at Dereivka. Direct radiocarbon dating of the skull satisfies neither party in that it dates to *c* 2900 BC, too recent for easy assignment with the other Dereivka dates but too old for those who regard it as a very late deposition of the Bronze Age.

Adjacent to the settlement was a cemetery which comprised burials from two cultures: the Dnieper-Donets culture and, contemporary with the Dereivka settlement, burials of the Sredny Stog culture.

See also Sredny Stog Culture; Horse; Kurgan Tradition. [J.P.M.]

Further Readings

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DESCENDANT

neptiịos 'descendant'. [*IEW* 764 (**neptịo-s*); cf. Wat 44 (**nepōt-*); cf. GI 670; Szem 9; BK 573 (**n^{y}ip[^{h}]-/*n^{y}ep[^{h}]-*)]. Rus *netijĭ* 'nephew', Grk ἀνεψιός (< **sm̥-nepsiós*) 'cousin' i.e., 'co-descendants', Av *napt(i)ya-* 'descendant'.

The most widely employed term for 'descendant' is based on the concept of 'grandchild', but a term meaning just 'descendant' is found only in central and eastern languages and is a masculinization of an innovative feminine **neptiịeh$_a$*, analogically developed from the regular feminine, **nept-ih$_a$*, 'daughter's daughter, sister's daughter'. Accordingly, there is no reconstructible term for 'descendant' in the generic sense, although any number of specific terms such as 'son' can be used so metaphorically. In other cases metaphors derived from the natural world like 'offspring' or 'scion' are employed. As a result, many items are later glossed simply as 'kinsmen', e.g., Hesychius' *ἔορες · προσήκοντες, συγγενεῖς* 'relatives'.

See also Child; Daughter; Kinship; Son. [M.E.H.]

DESIRE

las- 'be greedy, lascivious'. [*IEW* 654 (**las-*)]. OIr *lainn* (< **lasni-*) 'eager, greedy', Lat *lascīvus* 'lascivious', ON *losti* 'joy, pleasure, desire', OE *lust* 'pleasure, desire' (> NE *lust*), OHG *lust* 'pleasure, desire', Goth *lustus* 'desire, covetousness', Lith *lokšnùs* 'loving, amorous, tender', OCS *laskati* 'flatter',

SC *läska* 'flattery', Czech *láska* 'love', Grk λιλαίομαι 'desire', (Hesychius) λάστη 'courtesan', OInd *lasati* 'strives, plays, is delighted', *laṣati* (< **la-ls-ati*) 'desires'. Widespread and old in IE.

__*u̯enh$_x$-__ 'desire, strive to obtain'. [*IEW* 1146 (**u̯en-*); Wat 76 (**wen-*); BK 619 (**win-/*wen-*)]. Lat *venus* 'lust', ON *vinr* 'friend', OE *wine* 'friend', OHG *gi-winnan* 'achieve through struggle', Goth *wēns* 'hope', perhaps Hit *wen-* 'copulate', Av *vantā* 'beloved, wife', OInd *vánas-* 'lust', *vanóti* 'demands, strives for, likes; obtains, conquers', *vāmá-* (< **u̯n̥h$_x$mó-*) 'dear, fair, noble', TochA *wañi* 'pleasure', TochB *wīna* 'pleasure'. Cf. the derived verb **u̯n̥h$_x$sk̂e/o-* and its nominal derivatives in OE *wȳscan* 'wish' (> NE *wish*), OHG *wunsc* 'wish', OInd *vā́ñchati* 'wishes, desires'. Widespread and old in IE.

__*ĝhor(i̯e/o)-__ 'desire' [*IEW* 440–441 (**gher-*); Wat 22 (**gher-*); VW 188]. Lat *horior* 'exhort, incite', Umb *heriest* 'wishes', ON *gjarn* 'desirous of', *girna* 'desire, yearn', OE *giernan* 'yearn' (> NE *yearn*), OHG *gerōn* 'want, desire, long for', Grk χαίρω 'rejoice', OInd *háryati* 'finds pleasure in, desires', TochA *kar(y)-* 'laugh', TochB *ker(y)-* 'laugh'. Widespread and old in IE.

__*gheldh-__ 'desire' (pres. __*ghl̥dhi̯e/o-__). [*IEW* 434 (**gheldh-*)]. OCS *žlĭděti* 'desire', OInd *gṛ́dhyati* 'is envious'; cf. the derivative **gholdhos*: OCS *gladŭ* 'hunger', Rus *gólod* 'hunger', OInd *gardha-* 'envy'. A word of the center and east of the IE world.

__*h$_x$ih$_x$iĝh-(e/o)- ~ *h$_x$iĝh-i̯e/o-__ 'desire (strongly)'. [*IEW* 14–15 (**ā(i)ĝh-*); Buck 16.62; cf. VW 609–610]. From **h$_x$ih$_x$iĝh-(e/o)-*: Grk ἶχαρ 'violent desire', Av *īžā-* 'desire', OInd *íhate* 'strives for, wants', *īhā-* 'desire', TochB *ykāsse* 'concupiscence'; from **h$_x$iĝh-i̯e/o-*: Av *izya-* 'crave, yearn for', TochA (pl.) *yśalmañ* '(sexual) pleasures', TochB *yśelme* '(sexual) pleasure' (< **h$_x$iĝh-i̯o-lmo-*). At least a word of the center and east of the IE world.

__*h$_1$op-__ 'desire'. [*IEW* 781 (**op-*); Wat 46 (**op-*)]. Lat *optō* 'wish', OCS *za-(j)apŭ* 'presumption, suspicion', Grk ἐπιόψομαι 'choose'. At least a word of the west and center of late PIE. If 'desire' is in this case 'grasp at' (for which there are parallels) then it may be that this word is originally an intensive derived from **h$_1$ep-* 'grasp', seen otherwise in Hit *epzi* 'grasps, seizes'.

__?*k^{w}lep-__ 'desire'. [cf. VW 242]. Av *xrap-* 'desire', TochAB *kulyp-* 'desire'. Known only in these two stocks, this word may be of late IE age.

__*?moud-__ 'desire strongly'. [VW 282]. Lith *maudžiù/maũsti* 'desire passionately', Czech *mdlíti po čem* 'desire (something), seek after (something)', TochB *maune* (< **moud-no-*) 'avarice, avidity'. The apparent agreement of Balto-Slavic and Tocharian would suggest at least late PIE status for this word.

See also LOVE; PRAY; WANT. [D.Q.A.]

DESTROY

__*g^{w}i̯eh$_a$-__ 'physical power; overcome, oppress'. [*IEW* 469–470 (**gu̯ei̯ə-*); Wat 24 (**g^{w}eiə-*)]. ON *kveita* 'make an end, kill', Goth *qistjan* (< **g^{w}ieh$_a$-s-*) 'destroy', Grk βία 'physical force, violence', βιάω 'do violence to', OInd *jyā́* 'force, violence', *jināti* 'overpowers, suppresses'. The most secure correspondence is between Grk βία and OInd *jyā́*, suggesting that the root in the proto-language may have been nominal rather than verbal. Uncertainty exists as to whether the Germanic forms belong with this set; if they do, then there is a reasonable case for reconstructing the root as PIE. Otherwise, the form may be a late dialectal isogloss.

__*dhg^{w}hei-__ 'destroy'. [*IEW* 487 (**gu̯hðei(ə)-*)]. OIr *tinaid* 'vanishes', Lat *situs* 'abandonment', Grk φθίνω 'destroy', Av *dəjīt.arəta-* (= /djit-arta-/) 'who violates Arta', OInd *kṣiṇā́ti* 'destroys'. The connection between Greek and Indo-Iranian seems secure while the Old Irish and Latin forms are in some doubt. Lat *situs* may go with *sinō* 'place' via an intermediate meaning 'act of placing, leaving' which is semantically more plausible.

__*h$_3$elh$_1$-__ 'destroy'. [*IEW* 777 (**ol-(e)-*); Wat 46 (**ol-*); BK 412 (**ħul-/*ħol-*)]. Lat *ab-oleō* 'destroy', Grk ὄλλυμι 'destroy', Hit *hullā(i)-* 'combat, fight'. Although the form is attested in very few languages, their geographic distribution makes a good case for PIE status.

__*h$_2$erk-__ 'rend, destroy'. [BK 402 (**ħar-ak'-/*ħər-ak'-*)]. OIr *orcaid* (*DIL oirgid*) 'slays', Arm *harkanem* 'split, fell', Hit *harkzi* 'is destroyed'. The distribution of attestations suggests PIE status.

__*h$_2$erh$_x$-__ 'destroy'. [*IEW* 332–333 (**er-*); Puhvel 136–137]. Lith *ìrti* 'dissolve, go asunder', OCS *oriti* 'destroy', Rus *raz-orítĭ* 'destroy' (< **h$_2$orh$_x$ei̯e/o-*), Hit *harra-* 'destroy'. The agreement of Hittite and Balto-Slavic should indicate PIE status.

__?*bhreh$_x$i-__ 'destroy, cut to pieces'. [*IEW* 166 (**bhrēi-*); Wat 9 (**bhrēi-*)]. OIr (3sg subj.) *ro-bria* (*DIL bris(s)id*) 'may spoil, destroy', *briathar* 'word', Lat *friō* 'tear apart', Rus *britĭ* 'shave', Av *pairi-brīnənti* 'cuts out', OInd *bhrīṇánti* 'injure, hurt'. This cognate set presents numerous problems. If the Old Irish form *ro-bria* belongs to the root *bronn-* 'use, consume' (*DIL bronnaid*), as Vendryès suggests, then the form probably comes from **bhreus-* 'break' rather than **bhrei-*. OIr *briathar* 'word' may come from a form **bhrei-treh$_a$*; Vendryès notes that in Celtic numerous forms exhibit a connection between physical combat and speech. Lat *friō* probably belongs here but has also been connected with OInd *mrityáti* 'decays'. The various uncertainties associated with this set suggests that extreme caution should be used in positing the form for the proto-language.

See also BREAK; DEATH; CONQUER. [M.N.]

DEW

__*rós__ (acc. __*rósm̥__) 'dew, trickling liquid, moisture'. [*IEW* 336 (**rosā-*); Wat 17 (**ers-*); Buck 15.83]. Lat *rōs* (gen. *rōris*) 'dew; trickling liquid, drops, moisture', Lith *rasà* 'dew', Latv *rasa* 'dew, droplets, fine rain', OCS *rosa* 'dew', Rus *rosá* 'dew', Alb *resh* (< the denominative verb **rós-i̯e/o-*) 'precipitate' (cf. *po resh shi* 'it's raining', *po resh borë* 'it's snowing'), *re* (Gheg *rê*) 'cloud' (< **rosni-*), Av *Raŋha* (name of river), Scythian

'Pā 'Volga', OInd *rasā́* 'moisture, humidity; name of a river; mythical river supposed to flow around the earth and atmosphere', *rása-* 'sap, juice, any liquid or fluid; marrow, essence'. It is also possible to reconstruct **h₁ros-* with an initial laryngeal (only Greek could give the crucial evidence on this point). If so, it would be possible to see a relationship of this word with **h₁ers-* 'flow'. However, it is also entirely possible to take the meaning 'flow' which appears only in Indo-Iranian (in the designation of rivers) as a secondary development in that stock of IE, perhaps induced by the phonetic similarity of the descendants of **rōs* 'dew' and **h₁ers-* 'flow'. In any case in the root noun **ros-* we have a solidly attested PIE word.

See also FLOW; RAIN; WET. [J.C.S., D.Q.A.]

DIE *see* DEATH

DIG

***bhedh-** 'dig, burrow'. [*IEW* 113–114 (**bhedh-*); Wat 6 (**bhedh-*); GI 133 (**bʰedʰ-*); BK 18 (**bad-/*bəd-*)]. Wels *bedd* 'grave', Gaul *bedo-* 'channel', Lat *fodiō* 'dig', OPrus *boadis* (noun) 'prick', Lith *bedù* (vb.) 'prick', OCS *bosti* 'prick, gore', Hit *padda-* ~ *pidda-* (reading of first syllable unclear) 'dig', TochA *pāt-* 'plow'. A Germanic set indicating a 'bed' (ON *beðr* 'bolster, feather-bed', OE *bedd* 'bed' (> NE *bed*), OHG *betti* 'bed', Goth *badi* 'bed') has sometimes been placed here under the belief that the early Germans slept in hollows in the ground, i.e., 'dig' > 'animal burrow' > 'bed', but as the Proto-Germanic form **baðja-* apparently was borrowed into Finnish as *patja* 'cushion', derivation from **bhedh-* 'bend', i.e., a pliable pad on which one slept, has also been suggested. Even without the Germanic words, the root is securely reconstructible to PIE.

***dhelbh-** 'dig'. [*IEW* 246 (**dhelbh-*); Wat 13 (**dhelbh-*); BK 79 (**dal-/*dəl-*)]. OE *delfan* 'dig' (> NE *delve*), OHG *bi-telban* 'dig', Lith *dálba* 'lever, crowbar', SC *dúpsti* 'dig out'. A late dialectal form of the northwest.

***ghrebh-** 'dig'. [*IEW* 455–446 (**ghrebh-*); Wat 23 (**ghrebh-*); BK 223 (**gir-/*ger-*)]. ON *grafa* 'dig', OE *grafan* 'dig' (> NE *grave*), OHG *graban* 'dig', Goth *graban* 'dig', Lith *grė̃bti* 'rake', Latv *grebt* 'scrape, hollow out', OCS *pogrebǫ* 'bury'. A northwest dialectal term of late IE. It is doubtful that this word can be related to the homophonous root **ghrebh-* 'seize forcibly' via a chain of semantic meanings such as 'rake together' > 'plunder, seize'.

***h₃reuk-** 'dig up'. [*IEW* 869–870 (**reuk-*); cf. Wat 55 (**reu-*)]. OIr *rucht* 'pig' (< *'one who roots things up'), Lat *runcō* (with nasal infix) 'weed', Latv *rūkīt* 'dig', Grk *ὀρύσσω* 'dig', OInd *lúñcati* 'tears, plucks'. Whether the Old Irish form belongs here may be open to question.

See also BED. [M.N.]

DIRECTION

deiḱ-** (~ ***diḱehₐ-**) ~ ***doiḱós** 'rule, canon, measure'. [*IEW* 188 (**deiḱo-s*); Wat 10 (**deik-*); GI 706 (**t'eiḱʰ-*); Buck 15.55, 19.11, 19.14]. From **deiḱ-* (~ **diḱehₐ-*): Grk ***δίκη (< **dik-ā*) 'justice', OInd *díś-* 'direction', *diśā-* 'direction'; from **doiḱós*: ON *teigr* 'strip of land', OHG *zeiga* 'directions', Av *daēsa-* 'sign, omen', OInd *deśá-* 'direction, region'. (Cf. **déiḱos* in OE *tīg* ~ *tīh* 'meadow, pasture', OHG *zīah* 'forum'.) Related verbal forms include Lat *dīcere* 'say', *dicāre* 'proclaim', Grk *δικέω* 'throw'. The variant **deiĝ-* appears in OE *tǣcan* 'show, teach' (> NE *teach*), *tāc(e)n* 'sign, mark' (> NE *token*), Goth *taikns* 'sign', Lat *index* 'finger' (< *'pointer'). To explain the semantic developments one must assume that the original notion was that of 'norm, canon, rule', i.e., something that is fixed. The semantic transitions then can be explained according to the use of a norm, fixed point. For instance, a fixed point from which one gets one's bearings gives 'direction'; a fixed point is also a 'sign'. When 'that which is fixed' refers to an area, it may indicate a 'region or strip of land', in other words, a measure. Such a notion can also apply to a set distance, hence to a discus throw. When the notion of 'that which is fixed' refers to social norms, it assumes the meaning of 'custom', hence 'law, justice'. Customs or laws were generally spoken formulae, hence a 'saying'.

Cardinal Directions

The majority of the words for the cardinal directions are based on one of two systems. They may be based on literal *orientation*, i.e., where *east* is held to be 'in front', *west* is 'behind', *south* is to the (propitious) right, and *north* is on the unpropitious left. Thus OIr *anair* 'from the east' has as its second part a PIE **pr̥hₐéi* 'in front of' also seen in Av *pouru-* and OInd *pū́rva-* 'front of, former, earlier' while Av *apara-* and OInd *ápañc-* indicate both 'backwards' and 'west' (cf. OIr *tīar* 'in the west'). OIr *dess*, Av *dašina-* and OInd *dákṣiṇa-* mean both 'right' and 'south' while OIr *túaiscert* means both 'north' and 'left' as does OInd *savyá-*. Later innovations, albeit built on PIE roots, continue these semantic associations, e.g., OIr *clē* 'left' and Wels *cledd* 'left' also underlie words for 'north', e.g., OIr *fochla*, Wels *gogledd*. In Germanic the words for 'north', e.g., ON *norðr*, OE *norþ*, OHG *nord-an* (< Proto-Gmc **nr̥-tro-*) may be compared with Umb *nertru* 'left' or, in further semantic association with the equation of the 'north' and 'left' with the unpropitious, Grk *νέρτερος* 'lower, nether (world)'. The association of the cardinal directions with 'right' and 'left' also emphasizes their polarity in terms of the positive or propitious 'right' or 'south' and the negative or unpropitious 'left' and 'north'.

In the other system the cardinal directions are associated with the sun at a particular time of day, i.e., *east* (or *south*) is associated with the dawn or morning, e.g., PIE **hₐéusōs* 'dawn' which underlies ON *austr* 'east', OE *ēaste* 'east', OHG *ōstan* 'east' and Lat *auster* 'south wind' while the *west* is linked to the evening, e.g., OE *west* 'west' (cf. Lat *vesper* 'evening', etc.). Germanic also offers words for 'north' which are derivatives of **ner-* 'under' – the north being down as opposed to the south being up (cf. TochA *koṃ-tpānt* 'south', lit. 'sun-high'). The latter terms would be proof, if proof were needed,

that PIE speakers inhabited the northern and not the southern hemisphere. The cardinal directions provide a situation where the individual exponents of the PIE system cannot (usually) be reconstructed but the principles underlying the system can.

See also BEFORE; DAWN; DWELL; EVENING; LEFT; RIGHT; UNDER. [A.D.V., D.Q.A., J.P.M.]

Further Readings

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DIRT

***rēmós** (or ***reh$_1$mós**) 'dirty; dirt, soot'. [*IEW* 853 (**rē-mo-*); BK 611 (**rum-/*rom-*)]. NIce *rāma-legr* 'dirty', OE *rōmig* 'sooty', OHG *rāmak* 'dirty', MHG *rām* ~ *rōm* 'dirt, soot', OInd *rāmá-* 'dark, black', *Rāmá-* 'Rāma'. The geographical spread of the attestations, from the west and east margins of the IE world, would appear to guarantee PIE status for this word.

***solh$_x$-** 'dirt; dirty'. [*IEW* 879 (**sal-*); Wat 56 (**sal-*); Buck 15.88]. OIr *sal* (< Proto-Celtic **salā-* < PIE **sl̥h$_x$-éh$_a$-*) 'dirty', *salach* 'dirty', OWels *halọu* 'dung', MWels *halog* 'dirty', Lat *salebra* (< Proto-Italic **sales-rā-*) 'dirt', ON *sǫlr* 'dirty yellow', OE *salu* 'dark, dusky' (> NE *sallow*), OHG *salo* 'dirty gray', OCS *slavoj-očije* 'state of having greenish eyes', Rus *solovój* 'buff, dun, cream-colored' (Germanic and Slavic < **solh$_x$u̯o-*), OE *sol* 'dark, dirty; mud, wet sand, wallowing-place', TochB *sal* 'dirty' (Old English and Tocharian < **sl̥h$_x$-ó-*). Perhaps a derivative is Hit *salpa-* '(dog) dung'. Even without including the Hittite word we have evidence for a PIE term that was widespread and old.

***tih$_x$n-** '(be) dirty'. [cf. *IEW* 1053 (**tā-*)]. OE *þīnan* 'become moist', OCS *tina* 'mire, filth', Bulg *tína* 'mire, filth; dung', Czech *tina* 'dung', TochB *tin-* 'be dirty'. Clearly the Slavic and Tocharian belong together though the connection of the Old English is less certain due to its semantic distance. Even without Old English, the evidence for PIE status is strong.†

***leu-** 'dirt'. [*IEW* 681 (**leu-*); Wat 37 (**leu-*); BK 579 (**law-/*ləw-*)]. OIr *loth* (< **lutā*) 'dirt', Wels *lluddedic* (< **le/out-*) 'muddy', Lat *polluō* 'soil, defile', *lutum* 'mud', Lith *liūtýnas* (secondary zero-grade) 'puddle', Grk λῦμα (with unique long *u*) 'dirt'. Fair distribution suggests some antiquity.

***grūĝs** 'dirt'. [BK 603 (**k'ar-/k'ər-*)]. Regional NE *crock* 'smut, soot, dirt', Latv *gruzis* 'dirt, smut; rubbish', Grk (Hesychius) γρύξ 'dirt in the nails'. Though only sparsely attested, the geographical distribution of those attestations and the possibility of reconstructing a consonant-stem in PIE (*i*-stems in Baltic are the usual outcome of consonant-stems; the NE word is indeterminate) would seem to be evidence for IE status.

?*mai- 'soil, defile'. [*IEW* 697 (**mai-*); Wat 38 (**mai-*)]. OE *māl* (< **mai-lo-*) 'spot, stain' (> NE *mole*), OHG *meil* (< **mai-lo-*) 'spot', Goth (gen. pl.) *maile* 'wrinkle', Lith *miẽlės* 'yeast', Latv *mìeles* 'yeast'. Grk μιαίνω 'stain, sully' is sometimes placed here but is better derived from **meih$_x$-* 'harm' (cf. OInd *mináti* 'damages, lessens, diminishes', or TochAB *mi-* 'harm'). Thus we are left with a Balto-Germanic correspondence which is not a very strong basis for reconstruction to PIE.

?*dhūlis 'dust'. [*IEW* 262 (**dhū-li-*)]. This root should be rejected as MIr *dúil* 'wish' is semantically too distant to be related, Lat *fūlīgo* 'soot' is derived from the word 'smoke', Lith *dūmai* 'smoking beehives' does not belong here nor does OInd *dhūli-* 'dust'.

See also DARK. [D.Q.A.†, M.N., R.S.P.B.]

DISH *see* POT

DIVE

***mesg-** 'dip under water, dive' (pres. ***mésge/o-**). [*IEW* 745–746 (**mezg-*); Wat 42 (**mezg-*); Buck 10.33; BK 544 (**mus^y-ik'-/*mos^y-ik'-*)]. Lat *mergō* 'dip, immerse, dive', Late Lat *mergānser* 'duck' (< *'± diving goose'), Lith *mazgóti* 'wash up', Latv *mazgât* 'wash' (Baltic < *'dip repeatedly'), OInd *májjati* 'sinks, perishes'. Reasonably widespread and certainly old in IE.

?*g^{w}ādh- 'dive'. [*IEW* 465 (**g^{u}ădh-*); Wat 24 (**g^{w}adh-*); Buck 10.33]. OIr *bāidid* 'dives; drowns', Wels *boddi* 'drown; overflow, flood', Grk βῆσσα (< **g^{w}ādhi̯h$_a$-*) 'valley', Av *vi-gāθa-* 'ravine'. If all these words belong together, then their ancestor is surely of PIE age but it is still quite uncertain whether these are actually cognates.

?*g^{w}abh- 'dip'. [*IEW* 465–466 (**g^{u}ēbh-*); Wat 24 (**g^{w}ēbh-*)]. ON *kafa* 'dive, plunge', *kvefja* 'dip, submerge; choke', *k(v)œfa* 'choke', MHG *erqueben* 'choke', Grk βάπτω 'dip in'. Perhaps related to some Indo-Iranian words meaning 'deep' and the like: Av *jafra-* 'deep', OInd *ga(m)bhīrá-* 'deep'. If all these words are to be related, and their similarity of form makes an attempt to relate them tempting, they would appear to have undergone some irregular phonological developments that may suggest that it was a "popular" word of some sort.

See also WADE. [D.Q.A.]

DIVIDE

***u̯i-dhh$_1$-** 'put asunder'. [cf. *IEW* 1127–1128 (**u̯eidh-*); Wat 74 (**weidh-*)]. Lat *dīvidō* 'divide, separate', Lith *vidùs* 'interior', Latv *vidus* 'interior', Hit *widā(i)-* 'bring', OInd *vídhyate* 'bores through', *ví-dhā-* 'distribute, apportion, grant, bestow; prepare; furnish'. See also the derivative **u̯idhh$_1$eu̯eh$_a$-* 'widow'. Widespread and old in IE.

***deh$_a$(i)-** 'cut up; divide'. [*IEW* 175–176 (**dā-*); Wat 10 (**dā-*); BK 130 (**t'aħ-/*t'əħ-*)]. OIr *dām* 'host, retinue', Alb *për-daj* 'distribute, divide, share (out), scatter', *n-daj* 'divide, distribute, split; distinguish', Grk δαίομαι (< **dh$_a$i̯e/o-*)

'divide; feast on', *δαίνῡμι* 'give a banquet or feast', *δῆμος* 'people' (< *'section of population'), OInd *dā́ti* 'cuts up, divides', *dyáti* (< *dh_{a}i̯e/o-*) 'cuts off, shares out'. Cf. also ON *tīð* 'time', OE *tīd* 'time' (> NE *tide*), OHG *zīt* 'time', ON *tīmi* 'time', OE *tīma* 'time', Arm *ti* 'age, time', TochB *taiwe* 'ripe fruit' (< *deh_{a}iu̯o-* '± what one feasts on'). Sufficiently widespread to be assured PIE status.

bhag- 'divide, distribute' (also 'receive, enjoy'). [*IEW* 107 (**bhag-*); GI 121 (*$*b^{h}ak'$-*); Wat 5 (**bhag-*); Buck 4.11]. Grk *φαγεῖν* 'eat' (< *'enjoy, share'), OCS *bogŭ* 'god', Rus *bog* 'god' (perhaps Slavic < Iranian), Av *bag-* 'apportion', *baγa-* 'god', OPers *bāji-* 'tribute', OInd *bhájati* 'divides, distributes, receives, enjoys', *bhága-* 'lord, "dispenser" (epithet of gods)', TochA *pāk* 'share, portion', TochB *pāke* 'share, portion' (Tocharian possibly borrowed from Iranian). At least a word of the center and east of the IE world.

$h_1$er(h_1)- 'separate'. [*IEW* 332–333 (**er-*); Wat 17 (**erə-*)]. Grk *ἐρῆμος* (< *$*h_1reh_1mo$-*) 'desolate, lonely, solitary', OInd *r̥té* 'except, without'. A word of the southeast of the IE world.

See also CUT; DESTROY; PORTION; WIDOW. [D.Q.A.]

DIVINE TWINS

Few mythological themes are as consistent or as widespread among Indo-European groups as that of the Divine Twins. Likewise few are as characteristically Indo-European. A pair of lessor gods, the Divine Twins have enjoyed widespread popularity in myth, legend and folklore from Sri Lanka to the Isle of Man.

Their prototype is easily reconstructed from extant mythological sources. They are two youths, twins or brothers, who frequently bear the epithet 'son' or 'youth'. They are depicted as supernatural horsemen and their epiphanies are horses. In their equine form, they are the divine steeds which draw the solar chariot. Perhaps for this reason, they are often regarded as offspring of the Indo-European Sky or Sun gods. They share a consistent relationship with the Sun god and the goddess or goddesses who represent the dawn, the morning and evening stars. One of the latter is presented variously as their consort, wife, or sister. Her solar associations are likewise extensive, her epiphany is frequently a swan, and she is identified onomastically with roots meaning 'bright', 'white', and 'shining'.

As a triad, the Twins and their consort appear in numerous myths, epics, legends and are particularly popular in folktales. Most often, these tales involve the rescue of the consort by the Twins from some watery peril. This theme probably evolved from the Twins' role as the solar steeds. It was the widely attested belief that the horses of the sun traversed the sky during the day in pursuit of their consort, the morning star. The Divine Twins, the Sun god and his daughters, the morning and evening stars, would rest at the end of the day on the islands in the western sea. At night, they would return to the east in a golden boat. Whatever the source, at a very early time the attribute of rescuers, especially by or from water, was attached to the divine youths. This has proven to be one of the most durable, popular, and highly developed themes in epic and folklore.

From these primary functions, this pair has developed a greatly expanded range of attributes. Prevalent among these are stockmen, healers, physicians, sailors, controllers and forecasters of weather, and keepers of the wind. Especially in their epical manifestations, the twins emerge as individuals with distinct characters and different strengths. For example, when one appears physically strong, aggressive, and martially skilled, the other is a healer, who gives patient attention to domestic duties, agrarian pursuits, and romantic adventures. In certain geographic regions and among different ethnic groups, this functional disparity often led to one brother's popularity increasing at the expense of the other, effectively eclipsing the original relationship between the two and leaving only faint traces for the mythologist to discern. Alternatively, so extensively have the Divine Twins and their related themes penetrated all strata of Indo-European religious and folk belief that they have multiplied under varying monikers and guises and, in some of the more heavily worked sagas, they recombine to form pairs of brothers or twins, encountering and even combating themselves.

Celtic

No unambiguous myth has survived describing the functions and relationships of the Celtic Sun god. One Gaulish 'Apollō', called *Belenos*, was associated with sacred, thermal springs and bore the epithet *Atepormaros* ('having great horses'). In Ireland, his feast day was *Beltaine*, a term combining the root *tene* 'fire' with *bel* 'bright'. *Grannos*, another Gaulish god who the Romans identified with Apollō, possessed curative powers. While etymologically obscure, it is difficult not to associate his name with the Irish word *grīan* 'sun' (or 'hot springs'). *Grannos* is connected with the goddess *S(t)irona* whose name has been variously related to the word for 'star' or 'heifer'. In west and north Britain, the god *Maponos* 'divine son', who also was connected with healing springs as well as music, was equated with Apollō *Citharœdus* 'the harper'. In all, the historic and iconographic evidence indicates the existence of a Celtic Sun god connected with horses and an astral goddess. Furthermore, a divine 'son' is part of this solar complex.

Celtic myth shows the Divine Twins in close association with the horse goddess *Epona* 'divine mare', a peculiarly Celtic aspect of the IE transfunctional goddess who enjoyed wide popularity among the Celts as well as subsequent Roman cavalry units. She is easily recognized in myth as the Welsh goddess Rhiannon (from **Rīgantōna* 'divine queen') and the Irish goddess Macha. Pagan iconography in Gaul and Britain show this goddess seated on a horse just as Rhiannon is introduced in the beginning of the *Mabinogi*, the principal source of Welsh mythology. Interspersed throughout that work are references to horse-like behavior by this goddess which makes her identification with Epona compelling. In the

Mabinogi, Rhiannon bears a son, Pryderi, who disappears immediately and is raised by foster parents together with a magic colt born on the same night. This sort of simultaneous equine birth occurs also in the tale of the birth of the Irish hero, Cū Chulainn. In another tale, the Irish goddess Macha is forced, in an advanced stage of pregnancy, to race against the Ulster king's fleetest horses. As expected, this horse goddess wins the contest but prematurely gives birth to twins, who immediately disappear from the narrative. Thereafter the ancient capital of Ulster, the site of the race, was called *Emain Macha* 'Twins of Macha'. Another tale in the Irish *Dindsenchas* connects Macha with the construction of Emain Macha. Archaeological investigations of this site (Navan Fort) have disclosed that around 100 BC, a huge temple structure was erected there. Its name and the mythical tradition linked to it suggests that the Divine Twins may have been worshipped at this site.

Mabon 'divine son' (cf. Gaulish *Maponos*, and the Irish god *Mac ind Ōg* 'the young son'), a Welsh mythological figure who also disappears just after his birth, gives his name to the *Mabinogi*. In addition to Pryderi and Mabon, tales in the *Mabinogi* deal with the divine brothers under another name: the children of Llyr. These are *Bran* 'crow', Manawydan and their sister, *Branwen* 'white crow' (swan?). In the first tale, the brothers rescue their sister from her abusive husband after first crossing the Irish sea, a plot which conforms to the "rescue by sea" formula. In a second tale, Manawydan appears with Pryderi as his partner and with Rhiannon acting as their consort. In this confusing tale, the brothers assume the roles of itinerant craftsmen, wandering about and engaging in numerous trades and agrarian pursuits which emphasize their manifold functions. Ultimately, Rhiannon and Pryderi are abducted and eventually rescued by Manawydan.

Counterparts for the Welsh divinities Bran, Manawydan, and Mabon are found in Irish mythical figures of *Bodb* 'crow', Manannān mac Lir (cf. Welsh Manawydan mab Llyr), and Oengus *Mac ind Ōg* 'the young son'. All three are second generation gods, sons of the Dagda. In the opening of the Irish tale "The Fate of the Children of Lir", Bodb is made king of the Tūatha Dē Danann (one of the "primeval" peoples of Ireland) just as Bran was king in the *Mabinogi*. The remainder of the tale focuses on Lir's children, *Aed* 'fire' and *Fionguala* 'white shoulder' (swan?) and twin brothers, Fiachra and Conn. The tale stresses how Lir rises at dawn to play with them. Retained here is a relic version of the Twins' original solar function together with their sister and the Sun god. Ultimately, a jealous stepmother turns the children into swans and exiles them to watery places like the Sea of Moyle, between Ireland and Scotland. Later Christian redactors substituted a stilted Christian ending and the expected water rescue is not found.

A glimpse of the original ending may be preserved in the "Dream of Oengus", wherein Oengus, the divine 'youth', falls in love with a girl who appears to him in his dreams. After years of searching, Oengus locates her with the help of his brother, Bodb. Finding her on a lake in the shape of a swan, Oengus changes into a similar shape and flies with her back to his mansion at Bruig na Bōinne. Irish legends stress Oengus' youthful good looks and recount his romantic adventures. These characteristics and his proclivity for rescuing heroines from watery peril mark him as the womanizing brother. For example, in the Fenian tale, "The Pursuit of Diarmaid and Grāinne", he spirits the heroine Grāinne away from her pursuers to the safety of his fairy mound. In the "Wooing of Ētain", Ētain is rescued by Oengus after Midir's jealous wife causes her to be blown out to sea by a magical wind.

Oengus engages in a number of other, Twin-like enterprises: sometimes with Bodb and sometimes with Manannān but never with both at the same time. Here, a single deity appearing under different names contributes to the confusion. In an early tale, "The Nurture of the Houses of the Two Milk Vessels", Bodb is chosen king but Manannān exercises the kingship. Manannān conspires with Oengus to trick the Dagda into giving Oengus the fairy mound, Bruig na Bōinne. On a joint cattle raid, Manannān and Oengus capture a brace of magic cows whose milk has curative properties. Manannān institutes the "Feast of Age" which fends off sickness and age from the Tūatha Dē Danann and Oengus hosts it at Bruig na Bōinne. Manannān and Oengus are called to cure Eithne of her wasting sickness.

Even by the standards of Irish mythology, Manannān's horses are conspicuously famous. His healing skills are renowned. He is called the 'son of the sea' and in the late pagan period, replaces Tethra as the god of the sea. His kingdom is the Isle of Man but his mythical abode is *Emain Ablach* 'Twins of the apple trees', generally regarded as the Land of Promise, the Celtic realm of the dead. Mythologists stress that Manannān mac Lir and Oengus appear among the Tūatha Dē Danann but are not one of them. This outsider role reflects the Divine Twins' membership in the ideological Third Function which sets them apart from the primary gods and allies them with chthonic and fertility gods of that order. As elsewhere, these Irish gods are better understood in light of their Indo-European origins.

Germanic

Evidence for the IE Divine Twins among Germanic speaking peoples is dispersed over 1500 years and across central and northern Europe. A composite picture drawn from these data lacks the coherency of the other traditions. For example, middle and late Bronze Age rock carvings in Scandinavia repeatedly feature solar discs in conjunction with both chariots, ships, pairs of figures, and aquatic birds. Half a millennium later, in the *Germania*, Tacitus reports that a Germanic tribe, the Naharnavali, dwelling near present day Wrocław in Poland, worshipped a pair of youthful, twin brothers which Tacitus regards as close equivalents of the Roman Castor and Pollux. He also remarks that they are administered to by priests in female attire.

Almost a thousand years later, at the dawn of the Christian era in Scandinavia, the bulk of the Norse myths and legends

were recorded which provide the preponderance of information about Germanic mythology. In these myths, figures readily recognizable as the Divine Twins are not found. Instead, a triad of deities comprising the god, Njörðr, his son, Freyr, and his daughter Freyja, have been identified as the greatly evolved IE Divine Twins and their consort. They are all chthonic, fertility deities, belonging to the Vanir branch of gods. Careful examination reveals a number of compelling qualifications. Both *Freyr* 'Lord' and Njörðr possess strong associations with horses and the sea. Njörðr is the patron of sailors and Freyr possess the magic collapsible ship Skīðblaðnir which is the official ferry boat of the gods. Freyr has the strongest solar characteristics of all the Norse deities. In the *Skīrnismāl*, Freyr becomes sick with love for Gerd, a maiden so white her radiance lights up the sea and sky. Having had only glimpses of her as he sat in Ōðinn's seat on the heights of Āsgarð, he sends his servant, *Skīrnir* 'Bright One' to woo her. This theme of the love sick god and his helper searching for a distant consort follows very closely that of the Irish tale, "The Dream of Oengus". Like Manannān mac Lir, Njörðr and Freyr are associated with not only the sea, but the land of the dead and the apples of immortality.

In Norse myth, horses are also engaged as celestial traction animals: *Skinfaxi* 'Shining Mane' draws the sun's chariot while *Hrīmfaxi* 'Frost Mane' pulls the moon's. Both these bodies are associated with the goddess Freyja. The most famous horse in Norse myth is Sleipnir, Ōðinn's eight legged steed. As told in the *Prose Edda*, Sleipnir's birth is connected with the building of the Walls of Āsgarð, for which a giant demands Freyja, together with the sun and moon, as payment. Elements of this story recall the Celtic horse goddess and birth of the Divine Twins viz. the demand for the goddess by an unwanted suitor and the seduction of the builders. Instead of a twin birth, in the Norse tale Sleipnir is born with an extra set of legs, thus representing an original pair of horses. Like Freyr and Njörðr, Sleipnir is responsible for carrying the dead to the otherworld.

Early Germanic legends are salted with the appearances of Divine Twin-like heroes. For example, the kingdom of Kent was founded by two Anglo-Saxon leaders named *Hengist* 'stallion' and *Horsa* 'horse', whose sister was named *Swana* 'swan'. The consort rescue theme has been popularized in Germanic epic, notably in the jumbled skein of tales comprising the *Vǫlsunga Saga* and the *Nibelungenlied*. Historically, these epics build on the heroic sagas about famous figures and events dating from the period of the Germanic migrations. Accreted to these are an array of themes and motifs drawn from folklore and myth, including the consort rescue theme. An example of this evolution is seen in the Ermanaric legend. Ermanaric was a Gothic king whose kingdom was overrun by the Huns and who subsequently committed suicide around 375 AD. Two hundred years later, the historian Jordanes, using an embellished version of this legend as his source, reported that the defeated Ermanaric seized Sunhild, the wife of an unfaithful vassal, and caused her to be torn apart by wild horses. Sunhild's death is revenged by her two brothers, Ammius and Sarus. By the end of the thirteenth century, this tale had been incorporated by German bards into the saga of the Volsung family. In the *Vǫlsunga Saga*, Sunhild is named Swanhild and, as befits the sister of the divine horsemen, can restrain wild horses with only her gaze. Rescue or revenge of ill-wed sisters (e.g., Signý, Guðrūn, Swanhild) by their brothers is so common in these famous Germanic epics that the strength and popularity of the earlier, underlying myth is hard to doubt.

Baltic

In the Baltic region, pagan religion survived much longer than elsewhere in Europe. Nevertheless, only a few written records document the religion of the Balts and these date from the fourteenth and fifteenth centuries AD. Because these early chroniclers were often Christian missionaries whose perceived duty was to eradicate pagan belief, their records are neither comprehensive nor coherent. Fortunately, their reports have been augmented by a body of evidence drawn from the native folklore. This material is rich in solar imagery and corroborates early ethnographer's accounts of sun worship by the pagan Balts. Also forthcoming is evidence of a strong and remarkably conservative tradition associated with the Indo-European Divine Twins.

Named *Dieva dēli* (Latvian: 'sons of god') or *Dievo sūnėliai* (Lithuanian 'sons of god'), this pair of handsome youths are an exact equivalent of the Greek *Dioskouroi*. Lith *Dievas*, the Baltic Sky god, is the linguistic cognate of Greek *Zeus*, Vedic *Dyáus* and Roman *Jūpiter*. He and his two sons are closely associated with Latv *Saules meita* 'Sun's daughter' and *Saule* 'sun', the Baltic Sun goddess, whose name is cognate with Greek *Hēlios*. Although Dievas does not appear to figure among the principal gods in the early accounts, he together with Saule and the Divine Twins enjoyed tremendous popularity in the folk tradition.

Latvian folk songs, called *dainas*, are replete with the adventures of the Sun as she rolls across the sky. At the end of the day she rests in the waters to the west. Here, she washes her pair of solar horses in the sea after their daily travail and ties them to the sun tree, the Baltic *axis mundi*, which is identified variously as a linden or an apple tree. This island in the west is also the place to which the dead travel and where they reside: the Baltic otherworld.

A favorite theme in the *dainas* is the rescue of the Sun, as she sinks beneath the waves, by the *Dieva dēli* who row to save her in a golden boat. Preserved in these songs is an extremely ancient archetype of the consort theme.

Greek

Despite strong influences from older Mediterranean cultures which tend to obscure its Indo-European roots, ancient Greek religion provides a remarkably clear picture of Indo-European Divine Twins. Their best known manifestations are the demi-gods, Kastōr and Polydeukēs.

However, vestiges of other, archaic reflections allow precious insights to their development.

Greek solar imagery begins with the god *Hēlios* 'Sun' and his sister, *Eōs* 'Dawn', who become in the course of the day, *Hēmera* 'Day' and *Hespera* 'Evening'. Eōs' chariot is drawn by the two horses, *Lampas* 'Torch' and *Phaethōn* 'Shining one'. Eōs accompanies her brother in his solar chariot across the sky. At the end of the day, on the Islands of the Blessed in the western ocean, Hēlios pastures his solar steeds. Later they return to the east sailing Hēlios' golden ferry boat along the ocean stream. Here again is the IE grouping of the Sun god and his sister, and the equine pair. In addition, associations with the Island of the 'Blessed' (i.e., the dead), the sea and sailing are demonstrated.

The Greek Divine Twins' relationship with the solar ponies is more than circumstantial. Kastōr and Polydeukēs have strong equine associations: they are known as great horsemen and bear monikers such as ***ἔυιπποι*** 'good horsemen', ***λεύκιπποι*** 'white horses', ***λευκόπωλοι*** 'white colts' and even ***λεύκω πώλω Διός*** 'Zeus' white ponies'. The use of ***πῶλος*** 'colt' here stresses their youth, as does their most commonly used collective title, the *Dioskouroi* 'Zeus' youths'. This title also reveals their relationship with the Indo-European Sky god and sustains their comparison with their counterparts in other IE traditions.

Kastōr and Polydeukēs are also connected with maidens who have suspiciously solar characteristics. Their sister is Helenē, who hatched from a swan's egg and whose father, Zeus, engendered her in the form of a swan. Etymologically, Helenē's name is related to the Greek Sun god's, Hēlios. Kastōr and Polydeukēs abduct and marry the sisters, *Hilaeira* 'Shining' and *Phoibē* 'Bright one' who are known collectively as the Leukippides.

Two other themes recur in tales of the Greek Divine Twins: water and rescue. The twins are called 'rescuers' and are the patron deities of sailors whom they save from shipwreck and to whom they can send favorable winds. Conforming strictly to the proto-type, they are famous for the rescue of their sister, Helenē, after she is abducted by Thēseus and Pirithous and hidden away in a remote village in Attica. Abduction and rescue are recurrent events in the careers of the twins and their sister. For example, the first work of western literature, the *Iliad*, involves Helenē's abduction by Paris and her rescue by the brothers, Menelāos and Agamemnon.

Hippomorphism, solar imagery, and twin births typify the Dioskouroi's lineage as far back as Hellen, the mythical ancestor of the Greeks. Thus Hellen's son, Aiolos, seduces Theā who is later changed into the mare Euippē. In this form, she gives birth to *Melanippē* 'Black mare' who in turn is seduced by Poseidōn. When her foster father discovers her pregnancy, he blinds and imprisons her in an empty tomb where she gives birth to twin boys who are named Aiolos and *Boiotos* 'herdsman'. Aiolos becomes a sailor and settles on the island of Lipari, where he serves as the guardian of the winds. As kings of Sparta, the Dioskouroi abduct and marry their cousins who are betrothed to the kings of Messenia, the twin brothers Idas and Lynkeus. This farrago of horsey twin births, abduction, rescue, and seamanship is the Divine Twin myth bumping into itself as the tutelary gods and tales of early Greek tribes were consolidated into a greater Greek tradition. Kastōr and Polydeukēs' rivalry with Idas and Lynkeos reflect the ethnic conflict between Sparta and Messenia. The ascendancy of Sparta as a major political and military power in Greece assured Sparta's *dioskouroi* the dominant mythological position.

Indo-Iranian

When the Indo-Aryan tribes moved south across the Iranian plateau early in the second millennium BC, their cultural inventory included a refined skill in horse handling and chariot warfare. To the great empires of western Asia, Egypt, and the Levant, chariot warfare represented the latest technology in the Bronze Age arms race. By conquest or contract, Indo-Aryan speakers were entrenched by the fifteenth century BC in the kingdom of the Mitanni which stretched across northern Syria from the Mediterranean to the Zagros mountains. In a treaty between the Mitanni and the powerful Hittite kingdom to the north, the names of numerous Mitanni gods were invoked. Among them was the earliest recorded name of the Indo-European Divine Twins: *Na-sa-at-tiya*.

An almost identical name, Nāsatya, appears later in the verses of the *Ṛgveda* where it refers to the Indic Divine Twins. Allonyms for these two Indic gods include *Divo napataḥ* 'sons of Dyaus', *aśvinaḥ* 'horsemen', and *dasrāḥ* 'wonder workers'. In the Vedas, references to the Twins' acts of healing and rescuing are numerous and these themes were readily transposed in epic, legend, and folklore. Another frequent theme is their role in fertility where they implant the seed (of man or beast) and it has been suggested that they are to be associated with paired male sexual organs, i.e., the testicles. However, their celestial origins are also well attested. Their father, or perhaps grandfather, is Dyaus, the ancient Indic Sky god. As in the other Indo-European traditions, this relationship is genealogically complex, incorporating *Uṣas* 'Dawn' (etymologically related to Greek *Eōs* and Latin *Aurōra*) and *Nakta* 'night' who were known collectively as *Divo duhitaḥ* 'daughters of Dyaus'. Jointly, these goddesses bear Sūrya, the Sun god and father of the sun maid, Sūryā. The latter is the joint wife of the Divine Twins. The Sun god is the solar charioteer and the wheels of his carriage are the sun. At dawn, the Twins yoke the horses to the golden chariot and Uṣas, the Dawn goddess, is born. With the sun maid, the Twins accompany the sun on his daily course.

Transpositions of the Divine Twins occur in the major Indian epics, the *Mahābhārata* and the *Rāmāyaṇa*, both of which are traced back to the first millennium BC. In the former, the twins appear as Nakula and Sahadeva, twin boys who, with their more important half brothers Yudhiṣṭira, Bhīma, and Arjuna form the famous Pāṇḍava family.

Throughout the *Mahābhārata*, the twins play a secondary role commensurate with the minor status of their divine congeners and exhibit similar behavioral characteristics.

At the heart of the *Rāmāyaṇa* is the Divine Twins' popular search and rescue theme. Rāma leads his brother, Lakṣmaṇa, and wife, Sītā, into exile in Dandaka forest. Sītā is abducted by the demon Rāvaṇa to his island kingdom, Lanka (Sri Lanka). Together with his brother, Rāma effects a rescue across the sea. In all, the *Rāmāyaṇa* combines many of the elements found in the later Welsh tales (e.g., "Branwen Daughter of Llyr" and "Manawydan Son of Lyr") and demonstrates convincingly the antiquity of this theme.

The reforms of Zaraθuštra transformed at least one of the original Divine Twins into a demon where Nāŋhaithya (=Vedic Nāsatya) is explicitly represented as a demon. Nevertheless, the original dualism was replicated in the abstractions *Haurvatāt* 'wholeness' or 'health' and *Amərətāt* 'deathlessness' who are associated respectively with waters and plants, features that may be related to their herbal healing techniques reflected more clearly in Indo-Aryan myth.

Patterns

The genesis of the Divine Twins can be sought in Indo-European cosmology. Associating a pair, or better, a matched pair of perfect horses with the solar wheel and the celestial deities representing the diurnal cycle would have occurred at a very early date, if we use wheeled transport and horse traction as a *terminus post quem*. Anthropomorphized, the shining youths' birth and adventures with their celestial companions would likely have soon become a standard component of the mythological repertory.

It is also reasonable to speculate that the cultural importance of the horse among Indo-European groups, especially among what might be called the nobility, was at least partly responsible for the widespread popularity of these two otherwise minor deities. Conversely, their links with agrarian pursuits, healing, and romantic adventures surely made them popular with the common folk. Evidence for their worship can be found from Scandinavia to the Near East as early as the Bronze Age. If the mythological evidence can be relied upon, their importance in the pre-Christian pantheons grew over time. In both Scandinavia and India, specific myths relate how the Divine Twins were admitted into the ranks of the older Indo-European gods and serve to document their growing popularity.

The relationships between the gods forming the solar constellation, including the Divine Twins, the Sun god (or goddess) and the astral goddesses vary only slightly among the different traditions. Always appearing at the head of the family was the Indo-European Sky god, **di̯ēus*. The traditions are equally insistent that the Divine Twins are his offspring and that they are young. This is true even where their worship had been adopted by the non-Indo-European Etruscans, who knew them as *Tinas Clenar* 'sons of Jūpiter'.

Whatever the implications the notion of the evening sun sinking into a western sea has for Indo-European homeland theories, it cannot be disassociated from the Divine Twins' special nautical skills. Their reputation as sailors undoubtedly stems from their part in the celestial crew navigating the golden sun-boat through the night to their home in the east. Because the crossing of water is integral to many of the consort rescue themes, it is probable that the rescue theme is also rooted in this cosmological belief. Whether the connection between the solar gods and waters, especially thermal springs, may have contributed to the Twins' reputation as healers is moot. We know that this reputation is both ancient and strong, occurring as it does from Celtic regions in the west to Vedic tradition in the east.

Uniformly, European traditions held that on an island in the western sea the solar deities rested after their daily journey. That this island was also identified as the Isles of the "Blessed", possessing magic apple orchards where the dead rested after their own "labors" ended, may have been the conflation of separate themes. Whatever its origin, the connection between the Divine Twins, the sea, magic apples, and the dead is so similar in Celtic, Germanic and Baltic myth that it may well be a later development among western Indo-European groups.

See also **Cosmology**; **Death Beliefs**; **Twin**; **War of the Foundation**. [S.T.O.B.]

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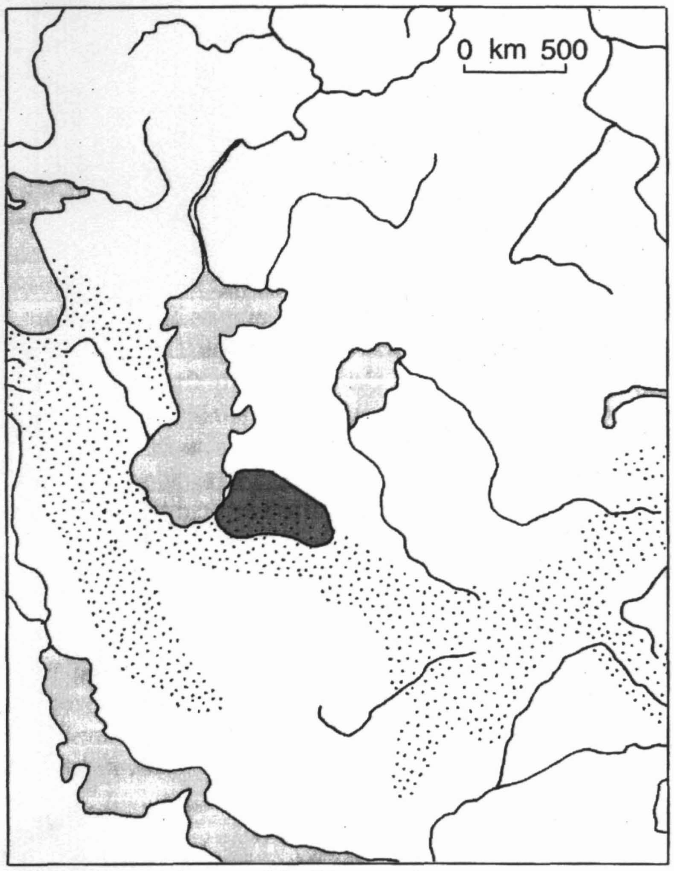
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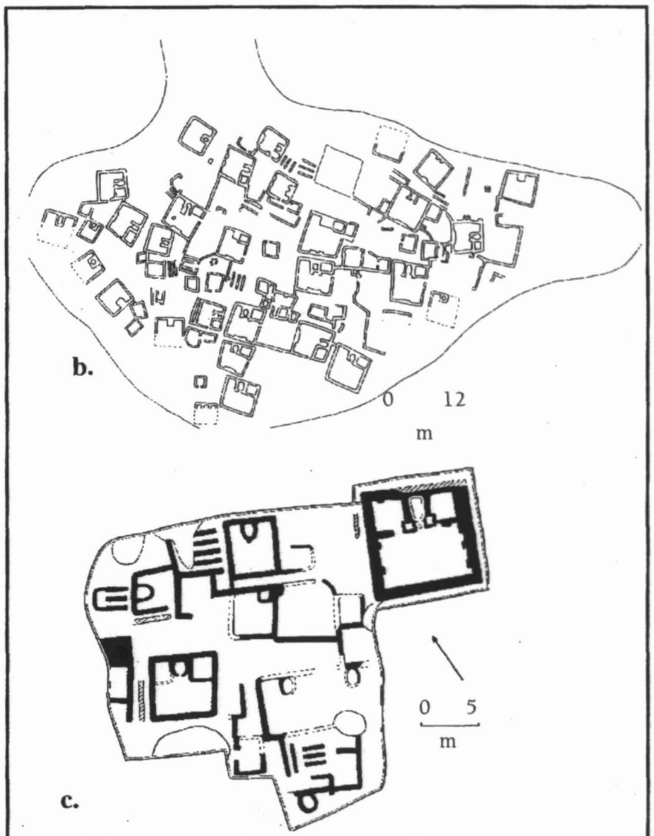
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DJEITUN CULTURE

The earliest appearance of domesticated plants and animals and village settlement southeast of the Caspian is associated with the Djeitun culture. The culture dates to approximately 6000–5000 BC. Settlements were small villages occupying from one to two hectares; a completely excavated level at Djeitun itself revealed some thirty houses constructed of mud bricks, painted walls and lime-plastered floors. Internal hearths are also very characteristic of the dwellings. Material culture included pottery and flint tools, particularly sickle blades and grinding stones. Plant remains include wheats such



Djeitun a. Distribution of the Djeitun culture.



Djeitun b. Djeitun settlement; c. Plan of house from site of Pessedjik-depe.

as spelt and bread wheat (*Triticum aestivum*) as well as barley. Sheep and goats dominate among the domestic animals with evidence for cattle domestication occurring late; among the hunted animals were gazelles, wild boar and traces of onager. A feline is depicted on a wall painting from a large room at Pessedjik-depe which has been variously interpreted as a club-house or temple. Within one of the settlements were found a number of graves covered with red ocher.

The earliest remains of the Djeitun culture already indicate a mixed agricultural subsistence basis and it is clear that the economy was imported to the region rather than marking a transition from hunting-gathering to agriculture which is more likely to have occurred in northern Iran. Djeitun and the cultural sequence it initiates remains linguistically anonymous although it is highly unlikely that it was part of the linguistic continuum that led to Proto-Indo-European. Nevertheless, by *c* 2000 BC, many would argue that the Bronze Age villages and urban centers of the region played a critical part in defining the origins and dispersals of the Indo-Iranians in southern Asia.

See also **BMAC**; **Indo-Iranian Languages**; **Namazga**. [J.P.M.]

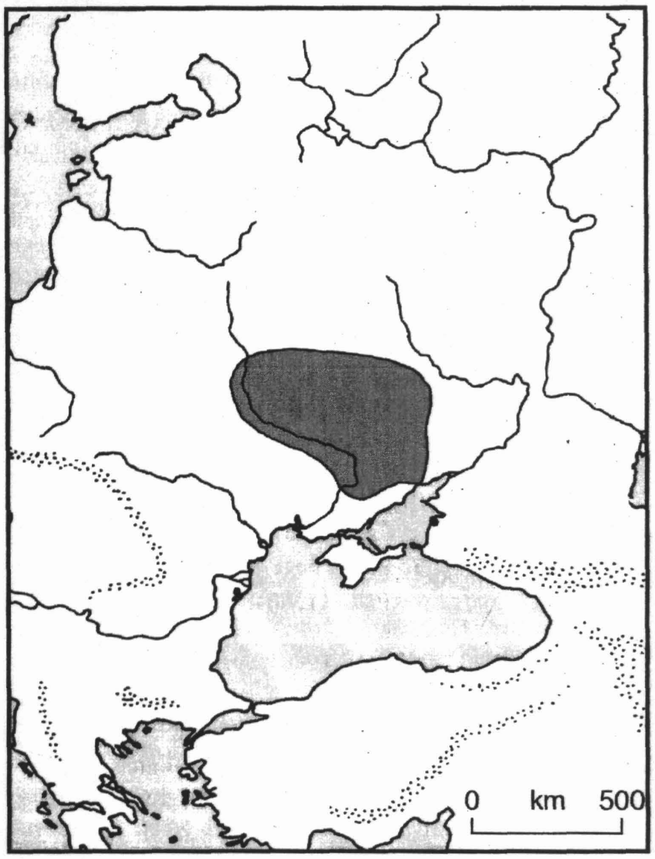
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DNIEPER-DONETS CULTURE

The Neolithic Dnieper-Donets culture of the Black Sea region flourished in the fifth and fourth millennia BC. Settlements of the culture are not well known but include semi-subterranean huts, and the economy of the population, at least in its earliest phases, was primarily based on fishing and hunting (aurochs, elk, red deer, roe, wild pig, onager, etc.). Domestic plant remains have also been recovered and these comprise wheat (*Triticum monococcum, T. dicoccon*), millet (*Panicum miliaceum*) and pea (*Pisum sativa*). Examination of the dentition of the Dnieper-Donets populations suggests that their diet was primarily high protein foods (meat, fish, nuts) and that the component provided by plants was minimal although there is some chemical (stable isotope) evidence from skeletal remains to suggest the consumption of plants. The importance of such information lies in the fact that the Dnieper-Donets culture, through the course of its existence, marks a transition from hunting-gathering to an agricultural economy.

The culture is best known from about thirty cemeteries which have so far yielded about eight hundred individuals. Burials are sometimes found in individual graves but more often in large grave pits in which the deceased were periodically placed and covered with ocher. The physical type of the Dnieper-Donets population has been termed "proto-

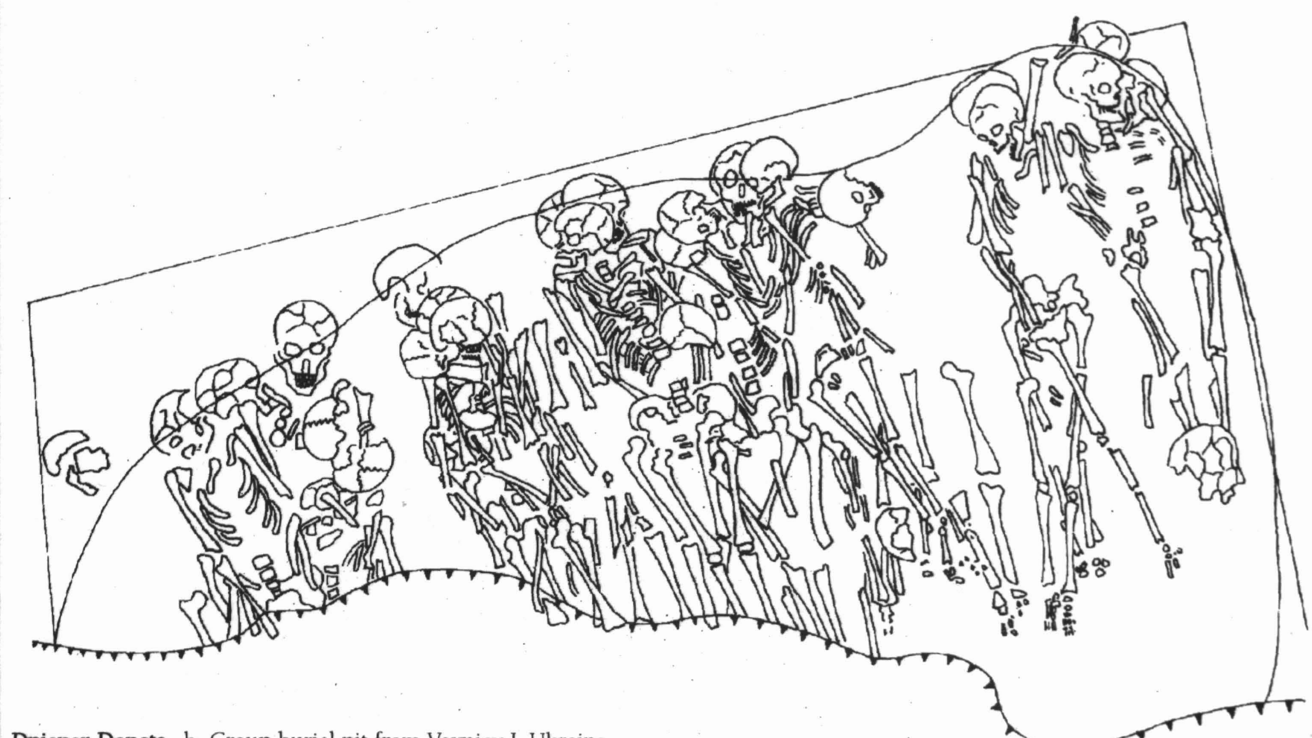


Dnieper-Donets a. Distribution of the Dnieper-Donets culture.

Europoid", a variety which was considerably larger and more massive than their neighbors elsewhere in Neolithic Europe. Some physical anthropologists have associated the Dnieper-Donets population with Mesolithic peoples of northern Europe.

The Dnieper-Donets culture has parallels in the middle Volga region in the so-called Samara culture and has suggested that already by the fifth millennium BC there was a broadly similar cultural horizon stretching from the middle Dnieper eastwards to the middle Volga. This is a region which is also associated with the earliest IE homeland according to the "Kurgan theory" and the role of the Dnieper-Donets culture has been the subject of some debate. In the Kurgan model, the Dnieper-Donets culture has been cast as a pre-IE population absorbed into the PIE community with the expansion of steppe pastoralists to the west. Its contribution, according to this model, may have been genetic, i.e., the massive physical traits of its population persisted among later cultures, but not linguistic. On the other hand, its distribution and connections with more easterly cultures might also suggest that it provided the initial foundation of the later so-called Kurgan tribes. Furthermore, its distribution, which extended to the upper reaches of the Dnieper, a territory whose river names have been ascribed to the early Balts, and its links with contemporary cultures of northeastern Europe, have also prompted its identification with the later (IE) Baltic populations.

See also KURGAN TRADITION; SAMARA CULTURE; SREDNY STOG CULTURE. [J.P.M.]



Dnieper-Donets b. Group burial pit from Vovnigy I, Ukraine.

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DO *see* MAKE

DOG

k̑(u)u̯ṓn (gen. ***k̑unós***) 'dog (*Canis familiaris*)'. [*IEW* 632–633 (**k̑u̯on-*); Wat 34 (**kwon-*); GI 505 (**k̑^{h}won-*); Buck 3.61; BK 652 (**k[^{h}]uwan-/*k[^{h}]uwən-*)]. OIr *cú* (gen. *con*) 'hound', *cuilēn* (< **kunēno-* by dissimilation) 'young dog', Wels *ci* 'dog', *colwyn* (< **kunēno-* by dissimilation) 'young dog', Lat *canis* 'dog', OPrus *sunis* 'dog', Lith *šuõ* (gen. *šuñs*) 'dog', Latv *suns* 'dog', Rus *súka* 'bitch', Grk *κύων* (gen. *κύνος*) 'dog', Arm *šun* (gen. *šan*) 'dog', Hit ^{LU}*kuwan-/kun-* 'dog-man', HierLuv *zú-wa/i-n(i)-* 'dog', Av *spā* (gen. *spanō*) 'dog', OInd *śvā́* (gen. *śunás*) 'dog', TochA *ku* (acc. *koṃ*) 'dog', TochB *ku* (acc. *kweṃ*) 'dog'. Enlarged by **-to-* we have ON *hundr* 'dog', OE *hund* 'dog' (> NE *hound*), OHG *hunt* 'dog', Goth *hunds* 'dog', Latv *sùntena* 'large dog' (deprecatory), Arm *skund* (< **k̑u̯onteh$_a$-*) 'small dog'. Widespread and old in IE. It has been suggested (not very plausibly) that **k̑u̯ōn* reflects an older **pk̑u̯-ōn* '± he of the sheep' (i.e., 'sheep-dog'). However, one might expect some trace of the initial **p-* in some descendant and, in any case, **pék̑u* seems not to have meant specifically 'sheep'. It has also been suggested that **h$_1$ék̑u̯os* 'horse' is a thematic derivative, with new full-grade, of this word but both the morphology (a new full-grade at the absolute beginning of the word) and the semantic distance (although some American Indian tribes did employ the word for 'dog' to the newly introduced horse) make such a derivation rather unlikely.

??*(s)koli- 'young dog'. [*IEW* 550 (**(s)k$^u̯$el-*); Buck 3.612]. OPrus *scalenix* 'setter, pointer', Lith *kālė* 'bitch', *skalìkas* 'hound, hunting dog', Alb *këlysh* 'young dog', Grk *σκύλαξ* 'young dog; young animal', (Hesychius) *κύλλα* 'young dog', Arm *c'ul* 'young steer'. This is a most doubtful grouping. If all the words assembled here do actually belong together, then we have evidence at most for a late word of the center of the IE world.

The dog is the earliest domesticated animal and derives from the wolf (*Canis lupus*). The process of domestication began by *c* 10,000-8000 BC and from the Mesolithic onwards the dog is known widely across Eurasia and its remains are relatively abundant on archaeological sites, often in the range of 2 to 5% of all individuals, occasionally much more. Either to assist in hunting or, in agricultural societies, to guard the flock or herd or drive away wild deer from crops, the dog has been indispensable. From an archaeological point of view, the Proto-Indo-Europeans must have known the dog but it is striking that other than the basic word, there seems to be a relative dearth of reconstructible terms pertaining to it (cf. 'wolf' where we can reconstruct a word for both the male and female or the variety of terms for cattle, sheep, and goat). Although the basic lines of the modern breeds may have emerged only with the late Bronze Age or Iron Age, i.e., *c* 1000 BC, there were different types of dogs from the fifth millennium BC onwards which, at least in size and probably in other forms of appearance, might have called for different terms.

Words for 'dog' in some IE stocks may also indicate the 'wolf', e.g., OIr *cú (allaid)* 'wolf' (< 'wild dog'), OInd *śvaka-* 'wolf' (but Av *spaka-* 'of a dog'). In these instances, the dog participates in the extensive complex of myth and social behavior which associates wolves with warriors.

See also Bark[2]; Death Beliefs; Hell-Hound; Mammals; Maykop Culture; Sintashta; Wolf. [D.Q.A., J.P.M.]

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DOOR

****h$_a$énh$_x$t(e)h$_a$*** (gen. ****h$_a$n̥h$_x$th$_a$ós***) 'doorjamb'. [*IEW* 42 (**anətā*); Wat 2 (**anətā*); Buck 7.22]. Lat (pl.) *antae* 'pillars framing a door, square pilasters', ON *ǫnd* 'foreroom', Arm *dr-and* 'door-posts', OInd *ā́tā* 'door-post'. Cf. Av *ąiθyå* (< **h$_a$n̥h$_x$th$_a$-i̯ó-*) 'door posts'. Archaic morphology and geographical distribution assure PIE status.

****dhu̯ṓr*** (gen. ****dhurós***) 'door, gate' (perhaps more particularly when used in the dual, the two leaves of a double door). [*IEW* 278–279 (**dhu̯ĕr-*); Wat 15 (**dhwer-*); GI 647 (**d^{h}ur-*); Buck 7.22]. OIr *dorus* (< **du̯orestu-*) 'gateway, doorway', Wels *dôr* (< **dhureh$_a$-* or **dhu̯oreh$_a$-*) 'door, gate', Lat *foris* 'door, gate', (pl.) *forēs* 'the two leaves of a door; entrance' (cf. *forā-* in the adverbial *forās* 'to the outside' and *forīs* '[from the] outside'), ON *dyrr* (< nom. pl. **dhures*) 'doorway', OE *dor* (< **dhurom*) 'door, gate, pass' (> NE *door*), *duru* (< acc. pl. **dhurn̥s*) 'door-opening', OHG *turi* (< nom. pl. **dhures*) 'door', Goth *daur* (< **dhurom*) 'gate', *auga-daurō* 'window' (< 'eye-door'), OPrus *dauris* 'large double gate', Lith (pl.) *dùrys* 'door' (< an old consonantal stem), Latv *durvis* 'door', OCS *dvĭrĭ* (as if < **dhu̯r̥-n̥s*) 'door', Alb *derë* (< **dhu̯ōreh$_a$-*) 'door', Grk *θύρᾱ* 'door', *θυρίς* 'window', Arm (pl.) *dur-k'* 'door', *duṙn* 'door, gate', Hit *andurza* (< **h$_1$en-dhur-s*) 'within' (< *'in-doors'), Av *dvarəm* 'door, gate', OInd (nom. pl.) *dvā́ras* ~ (dual) *dvā́rau* 'door, gate' (the loss of aspiration, however it is to be explained, is secondary), TochB *twere* 'door'. In addition there was a derived **dhu̯órom* meaning 'enclosure, courtyard' (< *'that enclosed by the door') and also possibly also 'gate, door': Lat *forum* (vulgarly *forus*) 'forum', Lith *dvāras* 'estate, court (of a prince)', OCS *dvorŭ*

'court', OInd *dvāram* 'door, gate, passage'. Certain PIE status for a word designating 'door' or 'gate'. That both the word for 'door' and 'doorjamb' show archaic morphology and no known root connections strongly suggests the antiquity of these objects in PIE culture.

This set of terms provides the essential elements of the IE 'door', a set of jambs and (usually) two doors, the word for door itself often appearing in the dual or plural. A door set to swing from jambs may be postulated for most areas of Eurasia from the beginning of the Neolithic (*c* 7000 BC) onwards. In some instances in southwest Asia, however, at sites such as Çatal Hüyük which has been advanced by some as a "typical" PIE settlement, the entrances to the rooms would have been through the ceilings rather than the walls of the structures. In the early historic period there is evidence for the re-use of earlier door-jambs, structurally one of the most solid components of a house.

See also HOUSE. [A.D.V., J. P. M.]

DORMOUSE *see* MOUSE

DOVE

The distinction between 'dove' and 'pigeon' is not entirely clear in English, and numerous European languages lack separate terms for each. In English, the slender *Columbidae* are called 'dove', especially the white dove. It is likely though that the white dove is a late arriver in Europe, being noted first in Greek in the fifth century BC. The various IE stocks support numerous and apparently unrelated terms. OIr *colmān* 'dove, pigeon' and Wels *colomen* 'dove, pigeon' are possible loans from Lat *columba* 'pigeon' while *palumbus* is almost always the 'ring dove, wood pigeon, *Columba palumbus*'. In Baltic we have Latv *balodis* 'dove, pigeon' while Albanian provides *vida* 'male pigeon', *vidë* 'female pigeon'. Grk *κόλυμβος* 'waterbird, especially the grebe', is clearly related to Lat *columba* but does not share the same semantics. Armenian has *aławni* 'dove, pigeon'. In Old Indic there is no distinction between dove and pigeon; the *Ṛgveda* has *kapóta-* 'dove, pigeon' while it is not clear if *pārāvata-* is only the pigeon. Other than the semantically unrelated cognates in Latin and Greek, there is no continued term for 'dove' or 'pigeon' in Indo-European.

See also BIRDS. [J.A.C.G.]

DOWN

ni 'downwards'. [*IEW* 312 (**ni-*); Wat 45 (**ni*)]. OIr *ne* 'down', ON *niðr* 'under', OE *niðer* 'under' (> NE *nether*), OHG *nidar* (Gmc < **ni-ter-*) 'under', OCS *nizŭ* 'down', Arm *ni-* 'down, back, into', OInd *ní* 'down'. Widespread and old in IE.

kat-h_ae 'down'. [cf. *IEW* 613 (**kṃta*); cf. Wat 27 (**kat-*)]. Grk *κατά* ~ *κάτα* 'down; through, among; according to', Hit *katta* 'down, by, with, under'. Cf. Hit *katkattiya-* '± kneel, go down', TochB *kätk-* (< **kat-sḱe/o-*) 'to lower', *kätkare* 'deep'. Grk *κατά* has sometimes been connected with OWels *cant* 'with', MWels *gan* 'with', and OIr *cēt-* (a verbal prefix) but the *-n-* of the Celtic forms makes any comparison with the Hittite or Tocharian words very difficult.

See also ADPREPS. [D.Q.A.]

DRAGON

dṛḱ- 'dragon'. [*IEW* 213 (**derḱ-*)]. MIr *muir-dris* (< **-dṛḱsi(h_a)-*) 'sea-monster', Grk *δράκων* 'dragon', *δράκαινα* 'she-dragon'. The apparent agreement of Old Irish and Greek, even though morphologically that agreement is only partial, is at least suggestive evidence for the shape of the PIE word for the mythical creature that places so prominent a role in IE legend. From **derḱ-* 'see' from the dangerous, potentially lethal, gaze of dragons (e.g., Greek gorgons).

See also ANIMAL; POETRY; SNAKE; THREE-HEADED MONSTER. [D.Q.A.]

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DRAW (WATER)

$h_2$eu(h_x)s- 'draw water'. [*IEW* 90 (**aus-*); Wat 4 (**aus-*)]. Lat *hauriō* (with secondary *h-*) 'draw water', ON *ausa* 'draw water', Grk *αὕω* 'take fire to', Palaic *hussiya-* 'pour'. Phonologically, this set is unproblematic but offers an interesting semantic shift in Greek where fire replaces water. Perhaps this relates to the IE myth of "fire in water" where the Indo-Iranian god Apām Napāt, who is characterized by fire, lives in water and the Irish story of the well of Nechtan which emits a blast of heat or light if anyone but its owner attempts to draw water from it.

$h_2$en- 'draw (liquids)'. [Wat 2 (**an-*); Puhvel 3:76–77]. Grk *ἄντλον* 'bilge-water', *ἀντλέω* 'bale (out)', Arm *hanem* 'draw out, remove', Hit *han-* ~ *haniye-* 'draw (liquids)'. Though attested only in Hittite, Armenian and Greek, it would appear likely that we have here a PIE word.

sem- 'draw water'. [*IEW* 901–902 (**sem-*)]. OIr *do-essim* (**to-ess-sem-*) 'pours', Lat *sen-tīna* 'sewer', Lith *sémti* 'ladle, draw (water)', Grk *-ἀμάομαι* 'gather, collect', *ἄμη* 'bucket'. Old Irish, Latin and Lithuanian correspond well enough to reconstruct this root at least to western IE. The Greek form is more dubious. Possibly an original meaning 'draw water' could have served as the basis for 'bucket' which in turn could have underlain the verbal form 'place in a bucket', or, more generally, 'gather'. Alternatively, if the Greek verb is not based on a nominal form, the meaning 'draw water' could simply have become generalized to 'collect (objects)'; it is worth noting that in Homer the verb is used to describe collecting milk.

See also FIRE IN WATER. [M.N.]

DREAM

$h_3$énṛ 'dream'. [*IEW* 779 (**oner-*); Wat 46 (**oner-*); GI 205 (**Honr-* ~ **Hner-*); Buck 4.62]. Alb *ëndërr* 'dream', Grk

ὄναρ ~ *ὄνειρος* 'dream', Arm *anurǰ* (< **h_3nōri̯o-*) 'dream'. Although the distribution is confined to the IE center, the presence of an *r*-stem would suggest at least late PIE status for this word.

?*su̯ópnii̯om 'dream'. [*IEW* 1048–1049 (**su̯opni̯io-m*); Wat 68 (**swep-*); GI 100 (**swep^h-*); Buck 4.62; BK 197 (**saw/ *səw-*)]. Lat *somnium* 'dream', Lith *sapnỹs* 'sleep, dream', Grk *ἐνύπνιον* 'dream', OInd *svápnyam* 'dreamy'. Cf. OCS *sŭnije* 'dream'. From **su̯ep-* 'sleep' but quite possibly we have more than one independent creation here.

See also DECEIVE; SLEEP. [D.Q.A.]

DREGS

****dhrogh-*** 'dregs'. [*IEW* 251 (**dherə-gh-*); Wat 13 (**dher-*); BK 76 (**dur-/*dor-*)]. ON *dregg* (< **drag-jō*) 'dregs' (borrowed > NE *dregs*), OE *dærst(e)* 'dregs', OHG *trestir* (< West Gmc **draχst-*) 'dregs', OPrus (pl.) *dragios* 'dregs', Lith (pl.) *drãgės* 'dregs', Latv (pl.) *dradži* 'remains of cooked fat', OCS *droždĭje* (< **drozgā*) 'dregs', MBulg (pl.) *droštija* (< **drog-skā*) 'dregs', Alb *dra* (< **dragā*) 'dregs, grounds, lees'. Perhaps also Lat (pl.) *fracēs* 'dregs', if the *-c-* is from *faecēs* 'grounds, sediment, dregs' or *floccēs* 'dregs of wine' but the *a* < **o* still remains difficult. To be rejected is Lith *drė́gnas* 'humid' as it indicates **g* and not **gh* (Winter-Kortlandt Law); also Grk *θρᾱ́σσω* (< **dhr̥$h_a$gh-*) 'trouble, destroy' is impossible. Cf. ON *draf* 'dregs', etc.

See also BEER. [R.S.P.B.]

DRIVE

****h_aeĝ-*** 'drive' (pres. ****h_aéĝe/o-***). [*IEW* 4 (**aĝ-*); Wat 1 (**ag-*); GI 61 (**ak̂'-*); Buck 10.64/65; BK 397 (**ħek'-/ *ħək'-*)]. OIr *ad-aig* 'drive', OWels *agit* 'goes', Lat *agō* 'drive, lead', ON *aka* 'travel', Grk *ἄγω* 'lead', Arm *acem* 'lead', Av *azaiti* 'drives', OInd *ájati* 'drives', TochAB *āk-* 'lead'. Cf. the derivative **h_aéĝmen-*: Lat *agmen* 'that which is driven', OInd *ájman-* 'career, passage, battle'. The primary word for driving cattle which also includes raiding for cattle, e.g., OIr *táin* (pre-Irish < **to-ag-no-*) *bō* 'cattle raid', Lat *bovēs agere* 'to drive or raid for cattle', Av *gąm varətąm az-* 'drive off cattle (as) booty'. Widespread and old in IE.

****kel-*** 'drive'. [*IEW* 548 (**kel-*); Wat 28 (**kel-*); BK 248 (**k[h]al-/*k[h]əl-*)]. Lat *celer* 'swift', Grk *κέλλω* 'drive (a ship to land)', *κελής* 'swift', (Hesychius) *κολέω* 'go', OInd *kaláyati* 'impels, bears, carries, does', *kāláyati* 'impels'. Cf. ON *halda* 'hold', OE *healdan* 'hold' (> NE *hold*), OHG *haltan* 'hold', Goth *haldan* 'pasture cattle', TochB *kälts-* (< **kl̥d-i̯e/o-*) 'press, goad, drive'. Reasonably widespread and certainly old in IE.

****dhreibh-*** 'drive'. [*IEW* 274 (**dhreibh-*); Wat 15 (**dhreibh-*); Buck 10.65]. ON *drīfa* 'pull', OE *drīfan* 'drive, hunt' (> NE *drive*), *drāf* 'herd' (> NE *drove*), OHG *trīban* 'put to flight', Goth *dreiban* 'drive, push', Lith *drimbù* 'slowly drop down'. Cf. the Lithuanian phrase *sniẽgas drim̃ba* 'the snow falls thickly' = ON *þā drīfr snǽr*. A dialectally restricted word of the IE northwest.

See also LEAD[1]; LEADER; RIDE; WAGON. [D.Q.A.]

DRY

****$h_2$es-*** 'be/become dry'. [*IEW* 68 (**ās-*); Wat 3-4 (**as-*); BK 381 (**ħas-/*ħəs-*)]. Lat *āreō* 'am dry', *āra* 'hearth', Osc *aasaí* 'in the hearth', ON *arinn* 'hearth', *aska* 'ash', OE *asce* 'ash', OHG *asca* 'ash', *essa* (< **asiōn*) 'chimney', Hit *hāssan* 'hearth', *hās* 'ash', Ormuri *yānak* (< **ās-naka-*) 'ash', OInd *ā́sa-* (< **$h_2$oso-?*) 'ash, dust', TochAB *ās-* (< **$h_2$es-*) 'become dry'. To this series may probably be added: Goth *azgō* (with *-gh-*) 'ash', Czech *ozditi* 'dry malt', Grk *ἄζομαι* 'become dry', Arm *azazim* (< **$h_2$es-gh-?*), *ačiwn* (< **$h_2$es-g-?*) 'ash'. The underlying semantic development is clearly 'dry' > 'dust, ash' > 'ash-place, hearth' and is unconnected with 'burn', e.g., Lat *ardeō* 'burn' < *āridus* 'dry' and not the reverse.

****$h_2$sus-*** ~ ****$h_2$sousos*** 'dry'. [*IEW* 880-881 (**saus-*); Wat 56 (**saus-*); GI 512 (**saus-/*sus-*); BK 168 (**s^{y}aw-/*s^{y}əw-*)]. Lat *sūdus* 'dry', OE *sēar* 'dry' (> NE *sear*), OHG *sōrēn* 'to dry up', OPrus *sausai* 'dry', Lith *saũsas* 'dry', Latv *sàuss* 'dry', OCS *suchŭ* 'dry', Rus *sukhój* 'dry', Alb *thaj* (< older and dialectal *thanj*) (< **sausni̯o*) 'to dry up', Grk *αὖος* (< **ahuhos* < **$h_2$susos*), Av *haoš-* 'wither away', OInd *śuṣ-* 'become dry'. The underlying meaning seems to be adjectival. Perhaps **$h_2$sus-* is from the perfect participle of the previous root. Both words are widespread and assignable to PIE.

****k̂seh₁ros*** 'dry (of weather or land)'. [*IEW* 625 (**ksē-ro-*); Wat 33 (**ksero-*)]. Grk *ξερόν* 'dry (land)', *ξηρός* 'dry, dried up', OInd *kṣārá-* 'caustic, burning'. Other cognates have been suggested such as Lat *serēnus* 'dry, clean', OHG *serawēn* 'become weak', Arm *č'or* 'dry', TochA *ksär* 'in the morning' but each of these are problematic. At best, the Greek and Old Indic forms may reflect parallel formations from PIE **k̂seh₁-* 'burn, singe'.[†]

****senk-*** 'make/become dry, singe'. [*IEW* 907 (**senk-*); Wat 58 (**senk-*)]. OE *sengan* (< **sangjan*) 'singe', MHG *sungen* (< **sn̥k-*) 'singe', OCS *prě-sǫčiti* 'make dry'. Probably from **sek-* 'dry up', cf. Lith *senkù* 'dry up'; secondarily 'singe' in Germanic.

****ters-*** 'dry'. [*IEW* 1078–1079 (**ters-*); Wat 70–71 (**ters-*); GI 39 (**t^{h}er-s-*); BK 99 (**t[h]ar-/*t[h]ər-*)]. Lat *torreō* 'dry', ON *þerra* 'dry', OHG *derren* 'to let dry', Goth *þaúrsus* 'withered', Alb *ter* (< **torsei̯e/o*) 'dry off', Grk *τέρσομαι* 'become dry', Arm *t'aṙamim* 'wilt, fade', OInd *tŕ̥ṣyati* 'thirsts' possibly OIr *tír* 'land', *tírim* 'dry' (< **tēres*), Lith *tir̃štas* 'thick, viscous, turbid (of clouds, rain, etc.)'. The same root also provides **tr̥sus/*tr̥stos* 'dry': OIr *tart* 'thirst, drought', Lat *torrus* 'dried out', ON *þurr* 'parched', OE *þyrre* 'dry, withered', OHG *durri* 'barren, arid, parched, drought', Goth *þairsjan* 'to be thirsty', Av *taršu-* 'dry', OInd *tr̥ṣú-* 'greedy, desirous, vehement'. The root **ters-* 'dry' is broadly and securely enough attested to suggest PIE status although the vocalism varies. Further developments in Indic and the northwest may have been post-IE.[†]

****siskus*** 'dry'. [*IEW* 894 (**si-sk-us*)]. OIr *sesc* 'sterile, unproductive (of animals)', Wels *hysb* 'dry', Lat *siccus* (with expressive gemination?) 'dry', Av *hišku-* 'dry'. A reduplicated form built from **sek-* 'to drain, run off'; possible IE status.[†]

See also BURN. [R.S.P.B., J.C.S.[†]]

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DUCK

h_an̥$h_a$ti-* ~ *$h_a$enh$_a$ti- 'duck'. [*IEW* 41–42 (**anət-*), 345 (**ētī-*); Wat 17 (**ētī-*); Gl 460–461 (**anḪth-*); Buck 3.57]. Lat *anas* (gen. *anatis*) 'duck', ON *ǫnd* 'duck', OE *ened* ~ *ænid* 'drake, duck', OHG *enit* ~ *anut* 'duck', OPrus *antis* 'duck', Lith *ántis* 'duck', Rus *útka* 'duck', Grk *νῆσσα* 'duck', Khot *āce* (pl.) 'waterfowl'; Oss *acc* 'wild duck', OInd *ātí-* (< **h_an̥ti-*) 'water bird'. Good geographical spread suggests PIE status for this word. Cf. the banal derivation **h_an̥$h_a$ti-no/eh$_a$-* 'duck flesh' in Lat *anatīna* 'duck flesh', Lith *antíena* 'duck flesh'.

pad- 'duck, teal?'. Span *pato* 'duck', SC *patka* 'duck', Arm *bad* 'drake', NPers *baṭ* 'duck'. This root is also known in Semitic, e.g., Arabic *baṭṭ* 'duck', and Kartvelian, e.g., Georgian *batti* 'duck' and has been termed onomatopoetic.

The species indicated by PIE 'duck', a bird widely known and hunted for its meat, is not certain although the mallard is by far the best attested species. It is ubiquitous across Europe and much of northern Asia with migrations to India, and frequently numbers among bird remains on archaeological sites. There is no evidence, however, that the remains derive from a domesticated variety. The domesticated duck is generally believed to derive from the mallard (*Anas platyrhynchos platyrhynchos*) and the earliest evidence for the domestication of the duck in the Old World derives from southeast Asia *c* 3000 BC. Although there are historical references to ducks kept in captivity in ancient Greece and Rome, the earliest solid reference to the domestic duck in Europe does not predate the twelfth century AD. One of the results of domestication was an increase in the size of the bird such that domestic ducks became incapable of flight.

See also BIRDS. [J.A.C.G.]

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DUMB *see* DEAF

DUNG see EXCREMENT

DWELL

tk̑ei- 'settle, dwell'. [*IEW* 626 (**k̑þei-*); Gl 127; Buck 7.11]. Grk *κτίζω* 'found, establish', Av *šēn* 'dwell, live', OInd *kṣéti* 'live, dwell'. Late IE isogloss of the south and east.

$h_2$ues- 'dwell, pass the night, stay'. [*IEW* 1170 (**u̯es-*); Wat 78 (**wes-*); Gl 389 (**Hwes-*); Buck 7.11; BK 368 (**aw/*əw-*)]. OIr *foaid* (< **h_2u̯oseti*) 'passes the night, dwells', ON *vesa* 'be, stay', OE *wesan* 'be, stay', OHG *wesan* 'be, stay', Goth *wisan* 'stay, dwell', *was* 'was', Grk *νύκτα ἄ(ϝ)εσα* 'I passed the night', Arm *goy* (< **h_2u̯os-*) 'is, exists', *aganim* 'spend the night', *awt'* 'night's rest', Hit *hues-* 'live', *huski-* (< **$h_2$us-sk̑e/o-*) 'wait for, linger, procrastinate', Av *vaŋhaiti* 'dwells', OInd *vásati* 'dwells, passes the night', TochB *wäs-* 'dwell', TochB *weswe* 'trace' (< *'what lingers after'). Lat *Vesta*, the goddess of the hearth has been put here but surely belongs with Grk *ἑστίᾱ* ~ *ἱστίᾱ* 'hearth', *Ἑστίᾱ* ~ *Ἱστίᾱ*, the goddess of the hearth, which must reflect **u̯es-* rather than **h_2u̯es-*. Distribution assures PIE status. The underlying semantics may have derived from a PIE 'to spend time' (with an accusative of time) which variously developed into 'be', 'dwell' or 'pass the night'.

[A.D.V.]

DYE *see* TEXTILE PREPARATION

E

EAGLE

***h$_3$or-** 'eagle'. [*IEW* 325–326 (**er-* ~ **or-*); Wat 46 (**or-*); GI 455 (**He/or-*); Buck 3.64; BK 406 (**ħur-/*ħor-*)]. OIr *irar* (*DIL ilar*) 'eagle', Wels *eryr* 'eagle', ON *ari* ~ *ǫrn* 'eagle', OE *earn* 'eagle' (> NE *erne(e)*), OHG *aro* 'eagle', Goth *ara* 'eagle', OPrus *arelie* 'eagle', Lith *erēlis* 'eagle', Latv *ẽrglis* 'eagle', OCS *orĭlŭ* 'eagle', Rus *orël* 'eagle', Hit *hāras* (gen. *hāranas*) 'eagle', Palaic *hāras* (gen. *hāranas*) 'eagle' (Anatolian and Germanic suggest an original paradigm **h$_3$érōn*, gen. **h$_3$(e)rnós*). Other terms are derived from the same root with a meaning other than 'eagle': Myc *o-ni-ti-ja-pi* 'of a bird', Grk *ὄρνις* 'bird', MArm *urur* (< **h$_3$ōr-h$_3$ōr-*) 'a raptor, kite', Arm *oror* 'gull' and *ori* 'crow, raven'. Geographical spread would seem to insure the PIE status of the word. The IE root for 'bird' **h$_a$eu̯ei-* yields Grk *αἰετός* 'eagle' while Arm *arciw* 'eagle' might be derived from IE **h$_2$r̥ĝipi̯ó-* (cf. OInd *r̥jipyá-*) 'rising straight up'.

The eagle is regarded highly for its strength, but its intelligence and swiftness are considerably surpassed by smaller raptors, the hawk and falcon. The term is used very loosely by some to refer to almost any large soaring bird. The eagle and other raptors are widely spread in numerous species throughout Europe, southwest Asia and India.

In Indic religion, two eagle names, *suparṇa-* and *śyená-* are mentioned in the Vedas with special reference. The latter term is equally seen to denote the 'falcon' or 'hawk'.

Demonstrable IE myths concerning the eagle are sparse if not non-existent. The most frequently remarked correspondence is the Old Norse Ōðinn's use of an eagle to obtain the sacred mead which provides some vague parallel to the Old Indic motif of Indra sending an eagle to fetch the corresponding sacred drink, soma.

See also BIRDS; SACRED DRINK. [J.A.C.G.]

EAR

***h$_a$óus-** (gen. ***h$_a$éus-s** or ***h$_a$usós**) 'ear'. [*IEW* 785 (**ōus-*); Wat 46 (*ous-); GI 688 (**o(H)s-*); Buck 4.22; BK 393 (**ħaw-/*ħəw-*)]. OIr **āu* (*DIL ó*) 'ear', Lat *auris* 'ear', ON *eyra* 'ear', OE *ēare* 'ear' (> NE *ear*), OHG *ōra* 'ear', Goth *ausō* 'ear', OPrus *āusins* 'ears', Lith *ausìs* 'ear', Latv *àuss* 'ear', OCS *ucho* (< **o/ausos*) 'ear' (*uši* [pl., historically dual] 'ears, intellect'), Rus *úkho* 'ear', Alb *vesh* 'ear', Grk *οὖς* (Doric *ὦς*) 'ear' (< **óusos*), (Laconian) *αὖς* 'ear', Arm *unkn* 'ear', Av *uši* (dual) 'ears'. Though not attested in either Anatolian (unless one presumes that Hit *aus-* 'see' is a credible cognate for the word for 'ear', i.e. < *'information receptor') or Tocharian, it is otherwise widespread and the archaic morphology secures its PIE status.

See also ANATOMY; HEAR. [D.Q.A.]

EAR OF GRAIN *see* GRAIN

EARLY

***h$_a$ei̯er-** 'early'. [*IEW* 12 (**āier-*); Wat 4 (**ayer-*); Buck 14.41]. ON *ār* 'early', OE *ǣr* 'earlier, before', OHG *ēr* 'earlier, before', Goth *air* 'early', Grk (Homeric) *ἄριστον* 'morning meal', *ἠέριος* 'of the morning, in the morning', Av *ayarə* (gen. *ayąn*) 'day'. This root ranges semantically over 'morning', 'early', and 'day'. It has a limited distribution among the IE languages, though its representation in three regional stocks and its *r/n*-root status in Avestan suggests an early IE formation. There is a possibility that **h$_a$ei̯er-* is connected with PIE **h$_a$ei-* that lies behind the extended **h$_a$eidh-* 'burn, shine', just as with **dei̯u-* 'to shine' > **deino-* ~ **dino-* 'day'.

***prō-** 'early, morning'. [*IEW* 814 (**prō-*); Wat 49 (**per*); Buck 14.44; BK 41 (**p[h]ar-/*p[h]ər-*)]. OHG *fruo* 'early', Grk

πρωΐ 'early, in the morning', OInd *prā-tár* 'early'. Based ultimately on the widespread root **per-* 'forward, through', from which **prō-* is derived, the lengthened form **prō-* developed the meaning 'early' independently in a small number of scattered IE languages.

The early part of the day, the morning, is signified in various IE languages by the word for 'dawn', 'before' (cf. Wels *cynnar*, Grk *πρωΐ*), 'light' (cf. Hit *lukat* 'at dawn', cognate with Lat *lūx*, Goth *liuhaþ*, OInd *roc-*), and even 'good' (cf. Lat *māne* 'in the morning' from *mānus* 'good').

See also DAWN. [P.B.]

EARTH

****dhéĝhōm*** 'earth'. [*IEW* 414–415 (**ĝhđem-*); Wat 14 (**dhghem-*); GI 720–721 (**dʰ(e)ĝʰom-*); Buck 1.21; BK 608 (**dag-/*dəg-*)]. OIr *dū* (gen. *don*) 'place, spot', Lat *humus* 'earth', OPrus *semme* 'earth', Lith *žẽmė* 'earth', Latv *zeme* 'earth', OCS *zemlja* 'earth', Alb *dhe* (< **dhghem-*) 'earth', Grk *χθών* 'earth', Phryg *ζεμελω* 'man' or 'earthly', Hit *tēkan*, *taknas* 'earth', Av *zā̊*, *zəm-* 'earth', OInd *kṣā́*, *kṣam-* (gen. *jmáḥ*) 'earth', TochA *tkaṃ* 'earth', TochB *keṃ*. The PIE word for 'earth'. The extension of this root to denote human beings, seen in the Phrygian example above, has many other parallels, e.g., OIr *duine* 'person', Wels *dyn* 'person', Lat *homō* 'man', Lith *žmuō* 'person'. The derivation has been variously explained as 'human' < *'being who lives on the earth' or the belief that humans were created from the earth although here one might have expected a derivation from one of the words for 'dirt', 'clay' or, finally, the concept of 'man' as a microcosm of the earth, cf. creation myths involving the carving up of a giant to form the various parts of the landscape.

****h₁er-*** 'earth'. [*IEW* 332 (**er-*); Wat 17 (**er-*); Buck 1.21; BK 419 (**ar-/*ər-*)]. ON *jǫrð* 'earth', OE *eorðe* 'ground' (> NE *earth*), OHG *erda* 'earth', *ero* (< **erā*) 'earth', Goth *aírþa* (Gmc < **ertā*) 'earth', Grk *ἔρα* 'earth'. Perhaps also Wels *erw* 'field' although it may derive from the root for 'plow' (< **h₂erh₃-u̯-ī*). Uncertain is Lith *érdvė* 'place', cf. *árdvas*, *ar̃dvas*, *er̃dvas*, *er̃tas* 'wide'. Possibly a late dialectal term of the west and center of the IE world.

See also COSMOLOGY; EARTH GODDESS; GROUND; MAN. [R.S.P.B.]

EARTH GODDESS

The existence of an IE 'Earth goddess', who is juxtaposed with a 'Father Sky', is underwritten by cognate names confined to the Baltic, Slavic, Thracian and Phrygian (Greek) traditions. The Slavic Earth(-mother) goddess, *Matĭ Syra Zemlja* ('mother moist earth') is linguistically related with Latvian *Zemes Māte*, Lithuanian *žemyna*, Phrygian and Thracian (Attic Grk) *Σεμέλη* (cf. Indo-European terms for earth: Lat *humus*; Grk (Attic) *χθών* shows metathesis), Hit *tēkan*, Av *zəm-*, OInd *kṣam-*, TochA *tkaṃ*, TochB *keṃ*. The emphasis on the 'Earth goddess' being 'Mother Earth' is also to be found in other IE traditions, e.g., OE *folde, fīra mōdor* 'earth, mother of men', *Erce, eorþan mōdor* 'Earth, mother of earth', OInd *Pṛthivī mātā́* 'Mother Earth', *bhū́mi-mātā́* 'Mother Earth'.

Among Slavic peasants, Zemlja was Mother Earth and prophetess. If one dug into the earth and listened at the opening, the earth would make a particular sound if the forthcoming crop was to be good, and a different sound if the crop was to be poor. Peasants settled property disputes by calling upon Zemlja as witness; when oaths were taken, one swallowed a clod of earth.

The name of the Greek heroine Semelē is etymologically related to the other IE earth goddesses (though borrowed from some other IE source rather than inherited in Greek); however, her mythology strays far from that of Earth goddess. She bore to Zeus the god Dionȳsus. Hēra was angry with Zeus' and Semelē's affair, and she determined to punish Semelē. Hēra disguised herself and went to Semelē; she advised the girl to demand of Zeus that he reveal himself in his true form. Semelē did so, and she was cremated by the celestial fire of Zeus. The god took the unborn child and sewed it into his thigh, later giving "birth" to Dionȳsus. Both Semelē and Dionȳsus were given immortality.

In addition to linguistically cognate earth-goddesses, a similar function is fulfilled by other deities such as the western Germanic Nerthus. According to the Roman historian Tacitus (*Germania* 40), a statue of Nerthus was led in ritual procession through a village, and then returned to her temple. Then the "goddess", along with her wagon and robes, was ritually bathed in a lake. The slaves who bathed her were subsequently drowned. Vestiges of this ritual may be represented by the well-preserved remains of men, wearing nooses and blindfolds, found in Iron-age Danish peat-bogs; this provides graphic evidence of the so-called 'Threefold death'. Nerthus is usually connected etymologically to the Roman goddess Nerio, Grk *ἀνήρ*, OInd *nara-* 'man' but Edgar Polomé has recently suggested that it is cognate with Grk *νέρτερος* 'lower, belonging to the lower world'.

See also EARTH; GODDESSES; THREEFOLD DEATH; TRANS-FUNCTIONAL GODDESS. [M.R.D.]

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EAST

****h₂eust(e)ro-*** 'east'. [*IEW* 86–87 (**aus-tero-*); Wat 4 (**aus-*); Buck 12.45; BK 393 (**ħaw-/*ħəw-*)]. Lat *auster* (gen. *austrī*) 'south wind; south country', *austrālis* 'southern' (whence NE *Australia*), ON *austr* 'east', OE *ēasterne* 'eastern' (> NE *eastern*), OHG *ōstar* 'to the east', Latv *àustrums* 'east', OCS *ustrŭ* 'summer', Av *ušastara-* 'east'. From **h₂eus-* 'dawn'

+ *-t(e)ro-* a suffix indicating implied contrast with a semantic opposite (i.e., 'east' as opposed to 'west'). The shift from 'east' to 'south' in Latin may result from a conflation of the two systems of deriving designations for the cardinal directions, or, since the basic Latin word refers to 'south wind', the shift may reflect a change in the direction of origin of the prevailing hot, desiccating wind as the ancestors of the Italians emerged from central Europe into the Italian peninsula.

See also DAWN; DIRECTION. [A.D.V.]

EAT AND DRINK

***$h_1$édmi** 'eat'. [*IEW* 287–288 (**ed-*); Wat 16 (**ed-*); GI 603 (**et'-*); Buck 5.11; BK 418 (**at'-/*ət'-*)]. OIr *estar* (*DIL ithid*) 'eats', Lat *edō* 'eat', ON *eta* 'eat', OE *etan* 'eat' (> NE *eat*), OHG *ezzan* 'eat', Goth *itan* 'eat', OPrus *īst* 'eat', Lith *ė́du* 'eat' (3rd sg. *ė́sti*), Latv *ȩdu* 'eat', OCS *jamĭ* (< **$h_1$édmi*) 'eat', Grk *ἔδω* 'eat (up), devour', Arm *utem* (< **h_1ōde/o-*) 'eat', Hit *ētmi* 'eat', Av *aδāiti* 'let eat', OInd *ádmi* 'eat', TochA *nätsw-* 'starve' (i.e. *n'edˢtu̯ie/o-* 'not eat'), TochB *mätsts-* (< **nätsw-*) 'starve', *yesti* (< **h_1ēdˢ-to-*) '± food, meal'. Clearly the PIE word for 'eat'.

***gras-** 'eat, graze'. [*IEW* 40 (**gras-*); Wat 24 (**gras-*); BK 216 (**ṭ̂'ar-as-/*ṭ̂'ər-as-*)]. Lat *grāmen* 'grass', Grk *γράω* 'gnaw, eat', *γαστήρ* (< **grastar-*) 'belly', OInd *grásate* 'swallows, consumes', *grastar-* 'swallower', and with a new lengthened grade: ON *krās* (< **grēsā-*) 'delicacy'. Perhaps used originally primarily of herbivores.

***ĝeP-** '± eat, masticate' (usually of animals). [*IEW* 382 (**ĝeph- ~ *ĝebh-*); Wat 19 (**gep(h)-*); BK 624 (**q'ab-/*q'əb'-*)]. OIr *gop* 'muzzle, snout, beak', OE *ceafl* 'jaw, jowl' (> NE *jowl*), NHG *kiefer* 'jaw', Lith *žė́biù* 'masticate, eat slowly', OCS *o-zobati* 'maltreat, outrage', Rus *zobátĭ* 'eat', *zob* 'crop, craw', Av *zafar-* (~ *zafan-*) 'mouth (of demonic being)'. The final consonant shows a good deal of variability (*-b-* ~ *-p-* ~ *-ph-* ~ *-bb-*), all of which suggests a popular word in later PIE, albeit a widespread one.

***$h_4$eu-** 'eat'. [cf. Mayrhofer I, 133]. Alb *ha* (< **$h_4$eu̯e/o-*) 'eat', Av *avaŋa-* 'provisions', Ashkun *au* (< **avas-* < **$h_4$eu̯es-*) 'bread', OInd *avasám* 'food', *aviṣyánt-* 'gluttonous', *āvaya-* (< an iterative-intensive **h_4ōu̯eie/o-*) 'eat, consume', *ósadhi-* 'herb, (medicinal) plant'. Perhaps a semantic specialization of **$h_a$eu-* (i.e., **$h_4$eu-*) 'favor'. In any case a word of the center and east of the IE world.

***dórkʷom** 'evening meal'. [cf. *IEW* 210 (**derek-*)]. Alb *darkë* 'evening meal', Grk *δόρπον* 'evening meal'. (Alb *darkë* would be regular from **dorkʷom*; ending in *-ë*, a shift to the attested feminine gender would be unsurprising.) Related are Bret *dibri* (< **dribi*) 'lunch' and Alb *drekë* (< **dr̥kʷéh$_a$-*) 'breakfast'. These possibly reflect an earlier unitary **dórkʷ* (gen. **dr̥kʷós*). At least a word of the west and center of the IE world.

***ĝieuh$_x$-** 'chew'. [*IEW* 400 (**g(i̯)eu-*); Wat 26 (**gyeu-*)]. ON *tyggja* (with dissimilation from **kyggja*) 'chew, eat', OE *cēowan* 'chew, gnaw, eat' (> NE *chew*), OHG *kiuwan* 'chew', OCS *žujǫ* 'chew', Rus *žujú* 'chew', NPers *jāvīdan* 'chew', TochAB *śuwā-* 'eat'; also Lith (pl.) *žiáunos* 'gills (of fish)', Latv *žaũnas* 'jaw', Bulg *žúna* 'jaw'. Widespread, but not universal. Still it is probably the PIE word for 'chew'.

***mandh-** ~ ***mant-** 'chew'. [*IEW* 732–733 (**menth-*)]. OIr *mētal* 'belly', Lat *mandō* 'chew', ON *mēl* 'bite', OE *mīþl* 'bite', OHG *mindil* 'bite', Grk (Hesychius) *μάθυιαι* 'jaws'. Probably a "popular" word for 'chew' and subject to irregular phonological reshaping. Largely restricted to the west of the IE world.

***treg-** 'gnaw'. Grk *τρώγω* (aorist *ἔτραγον*) 'gnaw (particularly raw fruit)' > NGrk 'eat', Arm *t'urc* 'jaw', TochB *tresk-* (< **trog-sḱe/o-*) 'chew'. Not widely attested but certainly of late PIE date.

***gʷer(h_3)-** 'swallow'. [*IEW* 474–475 (**gᵘer-*); Wat 25 (**gʷerə-*); GI 607 (**kᵛer-*)]. Perhaps OIr *tūar(a)e* 'food' (if < **to-gʷr̥-i̯eh$_a$-*), Lat *vorō* 'swallow (up), devour', Lith *geriù* 'drink', Latv *dzeṛu* 'drink', OCS *po-žĭrǫ* 'swallow', Rus *po-žrátĭ* 'devour', Alb *ngranë* 'eaten', *zorrë* (< **gʷērh$_3$neh$_a$-*) 'entrails', Grk *βορά* 'meat, food (of a predator)', Arm *eker* 'ate', Av *jaraiti* 'swallows', OInd *giráti* 'swallows'. Of PIE date. See also **grih$_x$u̯eh$_a$-* 'neck'.

***kʷem-** 'swallow'. [*IEW* 640–641 (**kᵘem-*)]. NIce *hvōma* 'swallow', Arm *k'im-k'* 'throat', Av *a-šam-* 'sip', *šāma-* 'gulp', Khot *tsām-* 'sip' (Avestan and Khotanese < Proto-Iran **či̯am-*), Oss *cumun* 'swallow', OInd *cámati* 'swallows'. It is possible that we have independent onomatopoeic formations at opposite ends of the IE world. It is more likely that we have here descendants of a PIE word, one whose "popular" character could lead to phonological reshaping as happened in Iranian.

***srebh-** (pres. ***sróbhei**) 'gulp, ingest noisily'. [*IEW* 1001 (**srebh-*); Wat 64 (**srebh-*)]. Lat *sorbeō* 'sup, swallow, absorb', MHG *sürpfeln* 'slurp' (as if with **-b-* rather than **-bh-*), Lith *srebiù* 'sup, spoon', *surbiù* 'suck', Latv *strebju* 'slurp, spoon', OCS *srŭbati* 'drink noisily', Alb *gjerb* 'sip, tipple', Grk *ῥοφέω* 'gulp down', Arm *arbi* 'drank', Hit *s(a)rap-* 'gulp', Pashto *rawdəl* 'suck', TochB *särp-* 'beat (of the heart)' (from the noise of the beating heart). Very widespread, clearly PIE in status.

***$h_1$égʷhmi** 'drink'. [Wat 16 (**ēgʷh-*)]. Lat *ēbrius* 'having drunk one's fill, drunk', Grk *νήφω* 'be sober' (< **n'ēgʷh-e/o-* 'not drink'), Hit *ekuzzi* (= *ekʷtsi*) 'drinks', Luv *aku-* 'drink', TochAB *yok-* 'drink'. Though not widely attested, this word would appear to be the oldest reconstructible IE word for 'drink'. Though often brought into this comparison, Lat *aqua* 'water' is phonologically incompatible because of its initial *a-* and the voiceless **-kʷ-*.

***peh$_3$(i)-** ~ ***pih$_3$-** 'swallow' > 'drink' (present ***piph$_3$e/o-**). [*IEW* 840 (**pō(i)-*); Wat 52 (**pō(i)-*); GI 607–608 (**pʰoH(i)-*); Buck 5.13; BK 40 (**pl̥ʰ]a-/*pl̥ʰ]ə-*)]. OIr *ibid* 'drinks', Lat *bibō* 'drink' (*pōtiō* 'a drink', *pōtor* 'drinker'), Wakhi *pōv* 'drink', OInd *píbati* 'drinks'. Showing different present formations: OPrus *poieiti* 'drink' (*poūt* 'a drink'), OCS *pijǫ* 'drink', Alb *pi* 'drink', Grk (Attic) *πίνω* (Aeolic *πώνω*) 'drink' (aorist *ἔπιον*, perfect *πέπωκα*; *πόσις* 'a drink', *οἰνοποτήρ* 'wine-drinker'), Arm *əmpem* 'drink', Hit *pāsi* ~ *paszi* 'swallows,

gulps', *papassala-* 'esophagus', OInd *pāti* 'drink' (*pātár-* 'drinker').

It seems likely that Hit *ekuzzi* preserves the older meaning here and that after Anatolian separated from the remaining PIE dialects, those dialects largely replaced *$*h_1\bar{e}g^wh$-* by *$*peh_3(i)$-* as the usual word for 'drink'.

See also BITE; BREAST; FEED; LICK; SUCK; TASTE. [D.Q.A.]

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EEL

$*h_x$Vnghel-* ~ *$*h_x$Vnghur- 'eel (*Anguilla anguilla*)'. [*IEW* 43–45 (*$*ang^u(h)i$-*); Wat 2 (*$*ang^whi$-*); GI 444]. Lat *anguilla* 'eel' (whose form has been influenced by *anguis* 'snake'; presumably before such influence we might have had **angella* or **angulla*), OPrus *angurgis* 'eel', Lith *ungurỹs* 'eel' (assimilated from **angurỹs*, cf. Finnish *ankerias* 'eel' [borrowed < Proto-Baltic **anguriya-*]), OCS *ǫgulja* ~ *jęgulja* (often taken as borrowings from Lat *anguilla* but that is not what we would expect phonologically, nor is it a particularly likely word to have been borrowed), Rus *úgorĭ* 'eel', Grk *ἔγχελυς* 'eel' (whose form has probably influenced *ἔχις* 'viper'). All of these would seem to represent either *$*h_x$Vnghel-* or *$*h_x$Vnghur-* (plus other suffixes). The evidence of Slavic and Greek would seem to indicate that the first vowel was **e* ~ **o*. If so, the Latin vowel would be analogical after *anguis* 'snake'.

Regarding its underlying meaning, GI argue that the Greek word means 'water snake' and not 'eel' because Homer (*Iliad* 21.203) mentions *ἐγχέλυές τε καὶ ἰχθύες* 'eels and the fishes' devouring one of Akhilleus's victims and hence the contrast (with the generic word for 'fish') suggests that the 'eel' is not a fish. From this they assert that one cannot reconstruct a PIE sememe 'eel' from the 'snake' word. That the meaning of the Greek word must be reassigned is very questionable since both the appearance and behavior of the eel might well lead to its classification in a folk taxonomy as a 'non-fish', i.e., it is not only elongated like a snake but it also can be seen moving on the ground outside of water. In Roman lore the eel was believed to be purely female and that for the purposes of reproduction, the eel mated with a male viper on visits to the sea coast. In Mordvin, the eel is known as the 'snake-fish'. Although there is considerable room for semantic confusion, there are still solid grounds to reconstruct the meaning as 'eel' rather than 'snake'. And whatever its exact phonetic shape, this appears to be a word at least of the west and center of the the IE world.

The eel has played a role in IE homeland arguments as it has been held to have been absent from the rivers draining into both the Black and Caspian seas. Hence, if one can reconstruct a PIE word for this fish, it suggests that the homeland lay outside of the north Pontic region. There is no archaeological evidence for the eel in this region in the prehistoric period although this is hardly conclusive evidence since the recovery of fish remains from archaeological sites is notoriously difficult and the eel is a fish which has an extremely variable record regarding its consumption, i.e. in some cultures it would never be regarded as a consumable item of food. The present distribution of the eel, however, does include almost all the rivers of the Pontic region as far east as the Kuban. The value for the 'eel' in terms of the IE homeland is negligible in any case since this word cannot be shown to be of PIE status but has both a restricted linguistic and geographical range.

See also FISH; SNAKE. [D.Q.A.J.P.M.]

EGG

$*h_a\bar{o}$(u̯)iom 'egg'. [*IEW* 783–784 (**ō(u̯)i̯-om*); Wat 4 (**ōwyo-*); Buck 4.48]. Wels *wy* 'egg', Lat *ōvum* 'egg' (curiously close in form to Lat *avis* 'bird'), ON *egg* 'egg' (borrowed > NE *egg*), OE *ǣg* 'egg', OHG *ei* 'egg', CrimGoth *ada* 'egg', OCS *ajĭce* 'egg', Grk *ᾠιόν* 'egg', Av *-āvaya-* 'eggs'; although sometimes cited Arm *ju* 'egg' and OInd *aṇḍa-* cannot be derived from this IE proto-form. It is quite possible that the word for 'egg' is a vr̥ddhied derivative of the word for 'bird' (*$*h_a$eu̯ei-*).

In addition to the 'egg' as a basic part of any language's lexicon, eggs occasionally are found in archaeological contexts, e.g., eggs and eggshells are known from burials in the steppe region of the Ukraine and south Russia during the Copper and Bronze Ages.

See also ANIMAL; BIRD; BIRDS. [J.A.C.G.]

ELBOW

$*h_3$elVn- 'elbow, forearm'. [*IEW* 308 (**olīnā*); Wat 16 (**el-*); Buck 4.32]. OIr *uilen* 'corner', Wels *elin* 'elbow', Lat *ulna* 'forearm, ell', ON *ǫln* 'ell', *ǫlnbogi* 'elbow', OE *eln* 'ell' (> NE *ell*), *elnboga-* 'elbow' (> NE *elbow*), OHG *elina* 'ell', *elinbogo* 'elbow', Goth *aleina* 'ell', Grk *ὠλένη* 'forearm', *ὠλέκρᾱνον* (< **ōleno-krānon*) 'elbow', (Hesychius) *ὠλλόν* 'elbow', Arm *oln* 'spine', TochA *āleṃ* (dual) 'palms of the hands', TochB *alyiye* 'palm'. Widespread and old in IE, though subject to irregular phonological changes. Also used as a unit of measurement, the 'ell', in Italic and Germanic.

$*h_3$elek- 'elbow, forearm'. [*IEW* 308 (**ĕl-ĕq-*); Buck 4.32]. OPrus *woaltis* 'forearm, ell', *alkunis* 'elbow', Lith *úolektis* 'ell', *alkū́nė* ~ *elkū́nė* 'elbow', Latv *uolekts* 'elbow', *èlks* 'elbow', *ẹ̄lkuon(i)s* 'elbow', OCS *lakŭtĭ* 'elbow, ell', Rus *lokótĭ* 'elbow, ell', Grk (Hesychius) *ἄλαξ* 'forearm', Arm *olok'* 'shin, leg'. A variant of the preceding word used in the central part of the IE world. Here we also see the elbow extended to a unit of measurement in both Baltic and Slavic.

See also ANATOMY; ARM. [D.Q.A.]

ELEPHANT

??*(i̯)ebh- 'elephant'. [GI 443 (*$*yeb^h$- ~ $*Heb^h$-*); Blažek 134–148]. Lat *ebur* 'ivory; elephant', OInd *íbha-* 'elephant'.

These words are not really comparable but, as Blažek suggests, derive from some third language. Cf. Egyptian *3bw* 'elephant'.

??*lebh- 'ivory'. [GI 443 (*$leb^{h}ont^{h}$-)]. Myc *e-re-pa* 'ivory', Grk *ἐλέφας* 'ivory', Hit *lahpa-* 'ivory'. Cf. Goth *ulbandus* 'camel'. Like the previous entry, the words collected here are related by borrowing of some sort rather than by inheritance. Neither 'elephant' nor 'ivory' can be reconstructed for PIE.

The two prehistoric elephants of the Pleistocene, the woolly mammoth (*Mammuthus primigenius*) and the straight-tusked elephant (*Palaeoloxodon antiquus*) were widely hunted in the northern hemisphere during the Ice Age. The straight-tusked elephant became extinct before the end of the Pleistocene while the woolly mammoth survived until about 11,000 years ago. The only elephants to survive the end of the Pleistocene were those adapted to warmer climates, the African (*Laxodonta africana*) and the Asian or Indian (*Elephas maximus*) elephants. The date of extinction of the pygmy elephants of Malta, Sicily, Cyprus and other islands is uncertain. Distant knowledge of the elephant in the Neolithic is possibly suggested by depictions of what are presumed to be an elephant on pottery from Adriatic Croatia which has been attributed to trading links with North Africa.

Although the distribution of the elephant was quite restricted, its primary purpose outside the area of its natural range was as a source of ivory which was exploited also during the Pleistocene. In the context of our lexical evidence, the Minoan site of Knossos has yielded evidence of an ivory worker's shop dating to *c* 1400 BC (about the time of or slightly before the Linear B tablets on which we find the earliest Greek form of 'ivory') and elephant tusks have been recovered from both the Cretan site of Zakro and palace of Mycenae itself. The source of the ivory is uncertain. It may have been from India, Africa or possibly Syria where there is iconographic (e.g., a Hittite seal of the fourteenth century BC depicts an elephant) and historical (Ashurnasirpal II reputedly killed thirty elephants in Syria during the ninth century BC) but no osteological evidence for the elephant at this time. In any event, both the commodity and possibly a name for ivory should have been circulating around the Aegean during the Bronze Age. It was also quite popular throughout the Near East around the ninth century BC and carried westwards to Italy as part of the Orientalizing style found in Etruscan art. Later it was very intensively imported from North Africa by the Romans. The depiction of elephants on art was very widespread, perhaps the most famous example in Iron Age Europe being the elephants on the panel of the Gundestrup cauldron which was discovered in a Danish peat bog (although probably manufactured in southeast or western Europe) *c* 100 BC.

Until recently there has been little or no attempt at the true domestication of the elephant, i.e. selective breeding, although elephants have obviously been "tamed" for millennia. Usually, the earliest date for such a process is attributed to the Harappan culture (*c* 2500–1500 BC) where seals frequently depict elephants with what appears to be a covering on their backs which, it is suggested, would indicate that they were already under some form of control.

See also **Mammals**. [D.Q.A., J.P.M.]

ELF

?*(a)l̥bh- '± elf'. [*IEW* 30 (**albho-*); Wat 2 (**albho-*); Buck 22.44]. ON *alfr* 'elf', OE *ælf* 'elf' (> NE *elf*), OInd *r̥bhú-* 'artistic, learned; artisan, artist; orderer of time; one of a group of gods'. Perhaps also belonging here is OCS *rabŭ* 'servant'. The apparent agreement of Germanic and Indic would suggest PIE antiquity. Etymologically, the word appears to be related to Lat *albus* 'white' and Hit *alpā-* 'cloud', originally as the 'shining one' or the like.

The Germanic elves (ON *alfr*) are said to live in mounds, which led to their identification with the dead buried in barrows. They would receive sacrifice (ON *ālfablōt*) at the beginning of winter in order to promote fertility. The Icelandic historian Snorri Sturluson distinguished light elves (ON *ljōsālfar*), dwelling in the resplendescent *Alfheimr* and more beautiful than the sun, sometimes called *Ealfrōðull* 'ray of the elves', and the hideous black elves (ON *dīkkālfar*), dark as pitch, living underground. In the Anglo-Saxon area, an independent tradition developed, perhaps under Celtic influence. Old English texts of the ninth and tenth centuries mention a large variety of elves—*bergælfen*, *dunælfen*, *muntælfen* 'mountain elves', *landælfen*, *feldælfen* 'field elves', *wæterælfen* and *sæælfen* 'water nymphs' and *wuduælfen* 'wood spirits'. They were ambiguous, responsible for a number of illnesses, e.g., OE *ylfa gesceot* 'elf-shot, i.e., lumbago', but, on the bright side, there is an Old English adjective *ælfsciene* 'pretty as an elf', and this term appears in many personal names, e.g., *Ælfred*, *Ælbeorht*.

The OInd *r̥bhu* are divine craftsmen, described as extremely skillful; they make a couple of old parents young again, put a cow back together and call her back to life, build the chariot of the Aśvins, make two horses for Indra, and multiply by four the magical cup of the artificer god Tváṣṭr̥.

On a deep comparative level, they have been associated with the yearly cycle and the renewal of the year. Very important in this conception is their sleep after a long walk symbolising the duration of the year: they stay for twelve nights during the winter solstice in the house of Savitr̥, marking the transition to the new year like Angerona presiding over the *angustii dies* in Rome.

[E.C.P.]

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ELK (AMERICAN MOOSE)

***$h_x$ólk̑is** (gen. ***h_xl̥k̑éis**) 'elk/American moose (*Alces alces*)'.

[*IEW* 303 (**el-*); Wat 16–17 (**olki-*); GI 437 (**(e)l-$\hat{k}^h$-*); Buck 3.75; BK 452 (**il-/*el-*)]. Lat *alcēs* 'elk/moose (*Alces alces*)' (borrowed from West Gmc **álxi-*), ON *elgr* (< Proto-Gmc **alxí-*) 'elk/moose', OE *eolh* 'elk/moose' (> NE *elk*), OHG *ëlho* 'elk/moose' (Old English and Old High German with new full-grade, i.e., as if < Proto-Gmc **élx-*), Rus *losĭ* (regularly from < **olk̂i-*) 'elk/moose', Grk *ἄλκη* 'elk/moose' (borrowed from Latin), Khot *rūś-* 'arghali/*Ovis poli* (*Ovis ammon*)', Wakhi *rūš* 'wild mountain sheep' (Iranian < **r̥šya-*), OInd *ṛ́śya-* 'the male of antelope, particularly the painted or white-footed antelope' (probably = nilgai [*Boselaphus tragocamelus*]). Widespread and old in IE. As with **$h_1$elh$_1$én* 'red deer', the meanings that the eastern group give to descendants of **$h_x$ólk̂is* presumably reflect their removal into territories where *Alces alces* was not native.

The current and Neolithic distribution of the elk (*Alces alces*) extends from Britain (but not Ireland since the time of human colonization) across Eurasia; however, it is generally absent from southern Europe, the east Mediterranean and territories south of the Caspian. For example, while it is found in very large numbers on sites of northern Russia (where it is often the most hunted animal), and frequently enough in Mesolithic and Neolithic faunas of northern Europe and on the Alpine Neolithic lake-side settlements, it is extremely rare on Neolithic sites of Central Europe such as the Linear Ware Culture or on Italian Neolithic sites and it seems altogether absent from early Neolithic sites of the Balkans, Greece and Anatolia. The elk is known from the Pontic-Caspian, southern Urals and western Siberia and it was widely depicted in the art of the Iron Age Scythians. If the sememe can be regarded as PIE, then the semantic shift from 'elk' to 'antelope' and perhaps then to 'sheep' has some possible explanation since the elk was not known in most Iranian-speaking territories and not at all in India. Alternatively, the original sememe may have referred to something like the 'saiga antelope' whose characteristic swollen snout could have prompted its re-application to the elk while its physique would have motivated its shift to various types of other antelopes and wild sheep in Asia. The saiga (*Saiga tatarica*) was essentially confined to the steppeland regions of the Pontic-Caspian to Mongolia, although previously known as far west as Poland. In addition to its meat, it was also hunted for its horns which were believed to be an aphrodisiac. This explanation, which seeks an animal midway in appearance between the much larger elk and the much smaller antelope, could only be accommodated if the PIE homeland were set in the steppe region.

See also **Deer**; **Mammals**. [D.Q.A., J. P. M.]

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ELM

$h_1$élem ~ *h_1(e)lmos 'mountain elm (*Ulmus montana*)'. [*IEW* 303 (**elem-*); Wat 16–17 (**elmo-*); cf. GI 545; Fried 80–87]. MIr *lem* 'elm', Wels *llwyf(en)* 'elm', Lat *ulmus* 'elm', ON *almr* 'elm', *elmr* 'elmwood bow', OE *elm* 'elm' (> NE *elm*), OHG *ëlmboum* 'elm', Rus *ílem* 'mountain elm', Pol *ilem* 'elm'. The distribution suggests a northwestern dialectal term, possibly the attested forms represent the remains of an old root-noun **$h_1$élem* (**$h_1$élōm*? **$h_1$élm̥*?), gen. **h_1l̥mós*.

u̯i(n)ĝ- 'elm (*Ulmus spp.*)'. [*IEW* 1177 (**u̯inĝ-*); GI 545 (**weik̂'-/*wink̂'-*); Fried 80–87]. OE *wīce* 'elm' (> NE *wych-elm*), Lith *vìnkšna* 'elm', Latv *vîksna* 'elm', ORus *vjazŭ* 'elm', Rus *vjaz* 'elm', Alb *vidh* (< **u̯inĝo-*) 'elm', Kurdish *viz* 'a kind of elm'. Perhaps Oss *wis-qæd* 'maple'. At least late PIE status.

Two overlapping sets of species of elm were denoted by two (solidly attested) terms that in turn overlap in both their reference and their geography. To begin, the early **$h_1$élmos* is found in Celtic, Italic, and Germanic and is buttressed by many Slavic forms which most probably do not involve many independent borrowings from Germanic but, rather, a Common Slavic original. The referent of the western forms is the mountain elm (*Ulmus scabra* or *montana*). The second term is also attested in Baltic and Slavic (as in Pol *wiąz*), and is supported by Albanian, Germanic (e.g., NE *wych* 'elm'), and, most critically, Kurdish. In sum, we have a PIE **u̯i(n)ĝ-* for the 'common' or 'European elm (*Ulmus glabra*, *U. foliacea*, and *U. campestris*)' and another term **$h_1$élmo-* in western Europe with Germanic, Baltic and Slavic showing both terms (presumably with semantic complementary distribution).

pteleịeh$_a$- ~ *pteleu̯eh$_a$- 'elm? (*Ulmus* spp.)'. [*IEW* 847 (**ptel(e)ịā*); Fried 89]. From **pteleịeh$_a$-*: MIr *teile* 'linden', Lat *tilia* 'linden', Arm *t'eli* 'elm'; from **pteleu̯eh$_a$-*: Myc *pte-re-wa* 'elm', Grk *πτελέα* 'elm', Arm *t'elōš* 'wood', Oss *færwe* 'alder'. The reconstruction is weak in that the Middle Irish may or may not be a loan from English (the linden is not native to Ireland) while the Armenian form has been dismissed as a Greek loan although more recently this explanation too has been rejected. The Latin form is phonologically transparent but the motivation for the reference 'linden' is not and both the elm and the linden are native to at least the northern half of the Italian peninsula. The Ossetic is aboriginally cognate. The Greek evidence is enhanced by the probably related form *πτέλας* 'wild rowan' as rowans are a frequent, symbiotic understory in elm forests. In sum, a PIE **pteleịa-* for the elm and metonymically or metaphorically related trees cannot be ruled out. If included, this might be the southern (Greek and Armenian) elm word, with overlap in Latin, in particular, since Latin participates in one of the two 'elm' words which are rather solidly attested in mainly northern stocks.

The genus *Ulmus* 'elm' was found over most of Europe excepting the Iberian peninsula and the southern extremes of Greece and Italy. It increased greatly during the relatively warm Atlantic period with climax forests, often mixed with linden trees, throughout southern Russia, the Ukraine and the north Caucasus. *Ulmus* is also represented in lake core sediments from prehistoric sites in southwest Anatolia. The genus retreated drastically during the Sub-Boreal, not so much because of climate (though disease has been seriously

proposed, cf. modern Dutch Elm disease) as because of extensive use as fodder through the harvesting of leaves, shoots and branches, its clearance due to its association with good soils, and because of its utility in making ropes, mats, baskets and other fiber-constructed objects. This practice has continued until very recently among Baltic and Slavic peasants.

See also **Trees** [P.F.]

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EMPTY

$h_1$eu(h_a)- 'empty, wanting'. [*IEW* 345 (**eu-* ~ **euə-*); Wat 18 (**eu-*); BK 409 (**ħiw-/*ħew-*)]. From **$h_1$eu-* we have Grk *εὖνις* 'deprived', Arm *unayn* 'empty'; from **h_1u(e)h_a-* we have Lat *vānus* 'empty', ON *vanr* 'lacking', OE *wan* 'lacking, wan' (> NE *wan*), *wanian* 'lessen, wane' (> NE *wane*), OHG *wan* 'lacking', Goth *wans* 'lacking', Av *ūna-* 'wanting', OInd *ūná-* 'lacking' (Ind-Iran < **h_1uh_a-nó-*). Widespread and old in IE.

****u̯ak-*** 'be empty'. [*IEW* 345 (**eu-*); Wat 18 (**wak-*)]. Lat *vacō* 'am empty', Hit *wakk-* 'fail, be lacking'. Though the attestations are few, the geographical spread of those attestations suggests PIE antiquity for this word.

****u̯(e)$h_a$stos*** 'empty'. [*IEW* 346 (**u̯āsto-s*); Wat 18 (**wāsto-*); GI 684 (**wāst^{h}o-*)]. OIr *fās* (< **u̯e$h_a$stos*) 'empty', Lat *vastus* (length of *a* unknown) 'empty, unoccupied, waste(d)', OE *wēste* 'waste, desolate, empty, unoccupied' (> NE *waste*), OHG *wuosti* 'waste, desolate, empty, unoccupied'. Hit *wastul-* 'sin' has sometimes been put here but in all probability belongs elsewhere. A western term in late PIE. Although sometimes so indicated in the handbooks, this word provides no evidence for a noun 'desert'. Both this entry and the previous one may be enlargements of **$h_1$eu(h_a)-* and, if so, should be written **h_1u̯ak-* and **h_1u̯(e)$h_a$stos* respectively.

****tusskios*** 'empty'. [*IEW* 1085 (**teus-*); cf. GI 365; Buck 13.22]. Lith *tùščias* 'empty, poor', OCS *tŭštĭ* 'empty', Rus *tóščyj* 'empty', NPers *tuhī* 'empty', Pashto *taš* 'empty', OInd *tucchyá-* 'empty'. From **teus-* 'to empty' as in Av *taošayeiti* 'lets fall, lets go', *tusən* 'they loose'. Lat *tesca* (*tesqua*) 'barrens, wasteland', an archaic form, has been suggested here but it is obscure and an unlikely connection. Attempts have also been made to connect OE *þost* 'fertilizer' via a meaning 'emptying out'. The Latin and Old English forms are most likely parallel formations; in Balto-Slavic and Indo-Iranian, i.e., a satəm isogloss, from PIE **teus-* 'to be empty'.

?*ḱenós 'empty'. [*IEW* 564 (**ḱen-*); Wat 29 (**ken-*); Buck 13.22]. Grk *κενός* 'empty', Arm *sin* 'empty'. Perhaps a late and dialectal word in PIE.

See also **Lack**. [D.Q.A., J.C.S., R.S.P.B.]

ENCLOSURE *see* FENCE

ENEMY

?*des- 'enemy'. [GI 400; Mayrhofer I, 711–712]. Myc *do-e-ro* 'slave' Grk *δοῦλος* (Doric *δῶλος*) 'slave' (Grk < **dos-e-lo-*), Av *dahyu-* 'region', OPers *dahyu-* (nom. sg. *dahyāuš*) 'province', MPers *dēh* 'region', NPers *dih* 'town', Manichean Sogd *ztyw* (< Proto-Iran **uz-dahyu-*) 'exiled', OInd *dāsá-* 'demon, enemy; infidel; barbarian; slave', *dásyu-* 'demon, enemy of the gods, barbarian, impious man' (< Proto-Indo-Iran **dásyu-* 'enemy, foreigner, foreign people', **dasyú-* '(foreign) land'). Not everyone would agree that the Greek word belongs with the Indo-Iranian one (many taking it to be a borrowing from some unknown Asia Minor source). If these words do belong together, however, then we have evidence for a word for 'enemy' in the southeast of the IE world (the semantic shift in Greek would be the result of the pragmatic fact that the usual source of slaves was captured enemies).

An alternative hypothesis has been proposed by Asko Parpola who suggests that the word was originally an ethnic designation which later developed the meanings of 'enemy' and 'slave', e.g., NE *slave* < (captive) Slav, Finnish *orja* < (enemy?) Aryan. He argues that the Dāsas, lumped with the Dasyus and Paṇis as enemies of the Aryans in the *Ṛgveda*, refers to a more distant memory of encounters between Indo-Aryans and their enemies in Bactria and northern Afghanistan (the Dāsas lived in triple-walled forts which can be more easily identified with the fortresses of this region rather than anything in the Indian subcontinent). He argues that the Vedic *Dāsas* are cognate with the nomadic Persian tribe of the *Δάοι* mentioned by Herodotus (1.125) which occurs in later historical and geographical sources, e.g., Tacitus's (*Ann.* 11.10) *Dahae*. He suggests that Khotanese Saka preserves the original meaning of the word in *daha-* 'male, man; man of courage', i.e., like many peoples of the world, the word originally was a self-designation 'men', e.g., Mari *mari* 'man' (*Mari* is the self-designation of the Mari), or Bantu *ba-ntu* 'men; Bantu'.

See also **Freeman**. [D.Q.A., J.P.M.]

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Parpola, A. (1988) The coming of the Aryans to Iran and India and the cultural and ethnic identity of the Dasas. *Studia Orientalia* 64, 195-302.

ENTRAILS

****$h_1$en-t(e)rom*** 'innards'. [*IEW* 313–314 (**enter-*); Wat 17 (**en-tero-*); BK 432 (**in-/*en-*)]. ON *iðrar* ~ *iðr* ~ *innr* 'entrails', OCS *ję̨tro* 'liver', Grk *ἔντερον* 'piece of the gut' (pl. 'entrails'), Arm *ənderk'* 'entrails', OInd *āntrá-* ~ *antrá-* 'entrails'. An old compound, at least late PIE in date, of **$h_1$en-* 'in' + *-tero-* a suffix showing contrast, thus the 'inner part of the abdomen' (cf. **ud^s-tero/eh_a-* 'abdomen').

****gudóm*** 'intestines'. [*IEW* 393 (**gudo-m*)]. LowGerm *küt* 'intestine', Maced *γόδα* 'intestine', OInd *gudá-* 'intestine, anus'. Possibly from **geu-* 'bend, twist'. Though not widely attested, it may be a late, popular, word for 'intestines' in PIE.

ĝhorh$_x$neh$_a$- 'entrails'. [*IEW* 443 (**ĝher-*); Wat 22 (**gherə-*); BK 231 (**gur-/*gor-*)]. Lat *haruspex* 'entrail-seer', ON *gǫrn* 'guts', *garn* 'yarn', OE *micgern* (< **mid-gern*) 'internal fat, suet', *gearn* 'yarn' (> NE *yarn*), OHG *garn* 'yarn', Lith *žarnà* 'guts', Latv *zar̃na* 'guts', Grk *χορδή* 'a string of gut; sausage', OInd *hírā-* 'band, strip', *hirā́* 'vein'. Germanic and Baltic agree on **ĝhorh$_x$neh$_a$*. The other languages show different and independent derivatives, presumably of some root-noun **ĝh(e)rh$_x$-*. It would appear that the semantic focus of this word was on intestines, not in the living animal, but as useful for sewing or binding, or as in the case of Italic, fortune-telling.

See also Abdomen; Anatomy. [D.Q.A.]

ESCHATOLOGY

Eschatology is that branch of mythology concerned with cosmic endings. Members of pre-scientific societies employ creation and cosmic ending myths to account for the origin and fate of the physical universe. Since the last century, scholars in Europe have been fascinated by the ancient Norse legend of Ragnarök, the "doom of the gods", as an example of a cosmic ending myth. More recently, IE eschatology has attracted the attention of comparative mythologists who have sought to recover the original IE proto-myth in the vestiges of related traditions found in the eschatological literature of ancient Scandinavia, Ireland, Rome, Iran and India.

True to their martial nature, early IE societies believed that the world would end in a great battle between the traditionally opposed forces of good and evil. The reconstructed cosmic ending or "final battle" myth features events which occur both in the distant, mythic past as well as the future. Even in reflexes where this myth has been historicized, it is marked by a sense of temporal ambiguity and often includes incongruous predictions about the fate of mankind. Motifs common to the various eschatological myths include:

1. An archdemon dwells in the community of the gods (or men, in epic versions) whose paternal relatives are traditionally inimical to the gods.
2. Through default or guile, the archdemon assumes the leadership of the community.
3. During his reign, his subjects are unjustly or harshly treated while outsiders, on whose support the archdemon relies, are favored.
4. Building projects, especially the erection of fortifications, are carried out by the archdemon, in which his subjects are tricked or forced to provide labor.
5. Usually as the result of a particularly heinous act, the archdemon is exiled by his subjects.
6. The archdemon ultimately takes refuge among his foreign relatives. Binding the archdemon occurs only in Norse and Iranian myth.
7. A hero appears who is the nephew or grandson of the exiled archdemon. This relationship is often that of the PIE **nep(ō)t-* 'daughter's son' or 'sister's son'.
8. A protracted period of time passes during which both sides prepare for the final battle. This period is critical because it represents the "present" in which the bearers of the religious tradition lived and worshipped. In Norse and Iranian traditions, a cataclysmic "cosmic winter" presages the final battle.
9. The final battle occurs on a famous field. In it, many notables among the community of gods and their adversaries slay each other in single combat. Associated with the final battle and its aftermath is widespread death and destruction, interruption of the cosmic order, and the end of a temporal "cycle" or era.

Ireland

Irish myth recounts two great battles which occurred on the plain of Tuired (*Mag Tuired*). The first represents the Irish reflex of the IE "War of the Foundation" while the *Second Battle of Mag Tuired* is the Irish version of the IE "final battle". Accounts of this battle are known from manuscripts dating from the sixteenth and seventeenth centuries, although other references to the conflict indicate that the tale is of great antiquity and the language of the later manuscripts clearly derives from an Old Irish original. At the center of the myth is the struggle between the Tūatha Dē Danann, the gods worshipped by the ancient Irish, and the Formorians, a race of giants who were their traditional enemies. Unlike Ragnarök, the "final battle" theme is better developed in the Irish accounts, especially events leading up to the conflict. Also unlike Ragnarök, the *Second Battle of Mag Tuired* has been incorporated by its Christian chroniclers into the mythical history of Ireland. Consequently, it represents not the end of the cosmos but rather the terminus of an historical cycle comprising one of the mythical ancestors of the Irish.

In the Irish version, the archdemon is Bres, who has more in common with the handsome fertility god Baldr of Norse legend than the demonic Loki. Because his mother is a member of the Tūatha Dē Danann, they adopt him. His father is Elatha, a Formorian king. Nūadu, then king of the Tūatha, forfeits his kingship because of a physical imperfection: his hand was severed in the *First Battle of Mag Tuired*. Subsequently, Bres is made king. Under Bres, the Tūatha suffer greatly and are made to perform menial tasks. Guests to Bres's house are not treated to their due hospitality and each house in Ireland is forced to pay onerous tribute to Bres's relatives, the Formorians. Bres compels the Dagda (the 'good [proficient] god') to build fortifications around Bres's stronghold.

His parsimonious treatment of a visiting poet incites the latter to satirize Bres, causing his reign to be unproductive. For this, the Tūatha exile Bres who flees to his Formorian kinsmen. Among them he raises an army to regain his kingdom. Seven years pass during which preparations for the ultimate conflict are made. Among the Tūatha Dē Danann, a new hero appears named Lug who was the son of Balor's daughter, i.e., the **nep(ō)t-* of a leader and primary warrior of the Formorian host. Lug, known among the Continental Celts as Lugus, was a prominent if not paramount god of the

Celtic pantheon. His "appearance" in this myth fixes it in the past according to the temporal perspective of his worshippers.

On the famous plain of Tuired, the "final battle" occurred during which many prominent mythic figures (Nūadu, Ogma, Balor, Indech, Macha) are slain together with numerous others. During the conflict, four physicians from the Tūatha revived their slain by casting them into an enchanted well. Lug slays his demon grandfather, Balor, and routs the enemy. After the battle, the Irish goddess, Morrīgan, predicts the coming era of agricultural barrenness and social corruption.

Iconographic evidence attests to the active worship by the Celts of some of these gods who perished in the battle, a fact which lends a future sense to this "final battle". Reviving the slain warriors in a sacred well or cauldron is a common motif in Celtic mythology and iconography, e.g., the Gundestrup cauldron, which parallels the Norse myth of the resuscitation of the dead *einherjar* by the Valkyries.

Rome

Lacking a coherent body of myth, ancient Rome has nevertheless provided mythologists rich sources of material in its extensive ritual tracts and its early legends. Among the latter is the legend of the overthrow of the Etruscan kings and the founding of the Roman Republic. This "historical event" contains the embalmed remains of the Indo-European "final battle" theme. Livy's *Early History of Rome* provides the primary source. Here, the cosmic ending theme is adopted to account for the end of the era of dynastic kingships and the birth of the Roman Republic.

Lucius Tarquin, the archdemon in this version, appears twice in Livy's history: as a father and son with identical names. His parentage is clearly Etruscan, a nation traditionally hostile to Rome's territorial ambitions. Tarquin is befriended by and made the guardian of the royal offspring by the Roman king, Ancus. When the succession of the kingship is to be decided, Tarquin disposes of Ancus's sons and becomes king. As monarch of Rome, Tarquin behaves in a lawless and tyrannical manner. During the Tarquin reign the fortifications of Rome, the temple of Jūpiter, and Rome's sewer system were completed. Atypically, this work is accomplished by employing free Romans rather than slaves. Tarquin strives to strengthen his grip on the kingship of Rome by enlisting support from foreign peoples.

Tarquin's son outraged the Romans by his rape of Lucretia. For this crime, the Tarquins were exiled. Tarquin sought asylum among his Etruscan relatives, where he organised an army to subdue Rome. A moratorium of unnamed duration follows, during which both sides anticipate the impending conflict. In Rome, the young hero responsible for the Tarquins' exile was Lucius Brutus, the son of Tarquin's sister and Tarquin's **nep(ō)t-*. Like the Irish Lug, and the Norse Viðarr, Brutus was known as the "silent" one.

The struggle between the forces of Tarquin and Rome culminates in a series of battles, all of which bear characteristics of the Indo-European "final battle". The first is the Battle of the Arsian Woods in which Tarquin's son, Arruns, and the Roman hero Brutus slay each other in single combat. The outcome is not decisive and Tarquin again returns to Rome with the army of the legendary Etruscan king, Lars Porsena. Porsena's siege of Rome is the setting for the heroic acts of two of Rome's great legendary heroes, Horātius Coclēs ('one-eyed') and Mūcius Scaevola ('left handed'). Coclēs is recognised as the Latin reflex of the Indo-European one-eyed god (e.g., Norse Ōðinn and Irish Lug). Likewise, Scaevola represents the Indo-European one-handed god (Norse Tȳr and Irish Nūadu). Their involvement in Rome's critical War of the Republic distinguishes the latter as a version of the "final battle". Livy noted that the Battle of Lake Regillus, the final battle of the war against the Tarquins, was fought with more determination than usual; officers of high rank who would normally have confined themselves to directing operations joined personally in the fighting, and with the exception of the Roman dictator, there was hardly a man amongst the nobility on either side who escaped without a wound. Mutual slaughter in single combat typifies this struggle as it does in other "final battle" reflexes. With the battle, the old order is forever eliminated and the new republic securely established.

Scandinavia

Reflexions of the IE eschatological myth are recorded in both Old Norse myth and Danish historical tradition. The least narrative of all versions of the "final battle", the Norse Ragnarök myth, is preserved in the *Võluspā*, the *Vafþruðnismāl*, the *Grīmnismāl*, the *Lokasena*, and Snorri Sturluson's *Prose Edda*. An apparently rich body of myth relating to the "final battle" is alluded to in these highly stylistic but cryptic lays. Snorri's is the only extant prose account and his deals primarily with the actual battle and ensuing apocalypse while shedding little light on the events which lead up to the conflict. From the general body of Norse myth, the main core of the theme can be reconstructed.

Loki is the foreign archdemon among the Æsir, the Norse gods. His father was a giant, the traditional enemies of the Æsir. Unlike the other figures of the Norse pantheon, there is no evidence indicating that Loki was ever actually worshipped in pagan Scandinavia. Although the Æsir suffer deprivations and humiliations at Loki's hands, he is never "king" of the Æsir. Instead, he is depicted as a wily trickster whose primary purpose seems to be to torment the gods. Loki is responsible for the construction of the walls around Āsgarð, the realm of the gods. By manipulating the blind Höðr, Loki causes the murder of Baldr for which he is exiled by the Æsir. Variant tales indicate that a) he is chained by the gods, perhaps in the shape of a wolf, b) he is chained and his son turned into a wolf, c) his son is chained in the shape of a wolf, and d) Loki is banished to Ūtgarð, where he is king. Ultimately, he turns up among the enemies of the gods and is allied with them at Ragnarök.

Insofar as a sequence can be imposed on mythic time, it is

clear that the death of Baldr and the exile of Loki were acts which occurred in the mythic past. The bearers of the Germanic mythic tradition considered their recent past and present as antedating the "final battle". Folk beliefs associated with the preparations for that conflict abound, especially proscriptions against disposing of finger nails and conserving shoe leather. Famous kings and warriors are selectively gathered by Ōðinn into Valhalla to form the *einherjar* (band of dead warriors) and bolster the Æsir's defences. Wargames are held in Valhalla after which the dead are revived by Valkyries and returned to Ōðinn's mead-hall for an evening of feasting.

Vīðarr, the son of Ōðinn, avenges the death of his father at Ragnarök and rules the new regime in its aftermath. He is associated with the Vedic god Viṣṇu because of his cosmic stride which he uses, together with a special shoe, to tear apart the demon wolf, Fenrir. Vīðarr's relationship with Loki is uncertain. While Loki is considered Ōðinn's foster brother, there is no evidence to indicate that he is Vīðarr's uncle or grandfather.

Prior to the battle, there occurs a period of climatic, geological, astronomic and social cataclysm. A freezing winter (*fimbulvetr*), three years long, is accompanied by the disintegration of social order, earthquakes, floods, and the disappearance of the sun. Monsters which have been held at bay by the forces of order break loose. The "final battle" occurs on the plain of Vīgrīðr. During the fight, prominent figures on both sides (Ōðinn, Þōrr, Tȳr, Heimdallr, Loki, Fenrir, the Miðgarð-serpent) are slain in single combat. The myth's hallmark is the cosmic destruction wrought by the battle that sees the world seared in flame and then submerged beneath the sea.

Recorded in the *Gesta Danorum* of Saxo Grammaticus is the famous battle between the king of Denmark, Harald Wartooth, and his nephew, Sigurd Ring. Here, ancient myth has been transposed to legend and subsequently adopted as history. Similarities have been drawn between the "Battle of Brāvellir" and the Indic *Mahābhārata*. Specific details and the overall apocalyptic nature of the battle itself has attracted comparison with the Norse myth of Ragnarök.

Gurid, a Danish princess, bears a son Harald by a commoner. Because Gurid is the last surviving member of the Danish royal lineage, Harald becomes king by default. A mighty warrior, Harald expands his holdings through conquest. However, his cruelty eventually makes him a burden to his subjects. Harald recruits many foreign heroes into his army with whose help he suppresses insurrections. No exile motif is evident in the legend: the cause of the battle is a territorial struggle between the king and his nephew, Sigurd Ring. Harald and Sigurd declare war and then spend seven years preparing for the conflict. Sigurd Ring is the **nep(ō)t-* 'sister's son' of Harald. The final battle occurs on the plain of Brāvellir. The list of slain heroes is unusually extensive, and Saxo takes pains to stress that the number of the lesser dead are uncountable. Other "final battle" motifs include references to the sky falling, the earth suffering, the loss of cosmic order and the return of chaos.

Iran

Ancient Iran retained the "final battle" as an integral component of its documented religious belief, a distinction which it shares with Scandinavia. Unfortunately, many of the inherited Indo-European elements were seriously distorted by the Zoroastrian reform in the first millennium BC. As evidenced in the ancient Avestan texts, the Indo-European pantheon was massively reorganized, and the gods' inherent functions modified and restructured into an extensive array of apotheosized abstracts and their demonic alter egos.

Amid the systematic transformation of Iranian religion, most of the details associated with the "final battle" theme have been lost. Evidence relating to the cosmic ending is found in the later (200–600 AD) text, the *Bundahišn*. Preserved is the motif of the cosmic winter, which may be compared with the Norse *fimbulvetr*, and Yima's *vara*, the place where living things will be sheltered.

A "final battle" is also recorded in which each of the divine Iranian abstract deities combats his demonic counterpart, including a long awaited face-off between MPers Ohrmazd (Av Ahura Mazdāh) and MPers Ahriman (Av Angra Mainyu). When the forces of evil have been (inevitably) overcome, the souls of the dead undergo a trial by molten metal to determine their worthiness. Explicit in this process is the formation of a new, prosperous world where the righteous enjoy eternity.

India

At the heart of the colossal Indian epic the *Mahābhārata* is the struggle between the royal cousins, the Pāṇḍavas and the Kauravas. This conflict was resolved in a cosmic battle, which occurs on the plain of Kurukṣetra. Scholars date the evolution of this work to the post-Vedic period, from 400 BC to 500 AD. Efforts to identify transposed mythic themes from the *Mahābhārata* have been extremely fruitful and among these is an epical version of the Indo-European "final battle".

Dhṛtarāṣṭra, the brother of the king, Pāṇḍu, is the son of the princess Ambika and the wild hermit Vyāsa. When Pāṇḍu dies, his sons are too young to succeed him and by default, Dhṛtarāṣṭra is made regent. The blind Dhṛtarāṣṭra fulfils the "archdemon" role and his sons, the Kauravas, represent the transposed "enemies of the gods". The sons of Pāṇḍu, the Pāṇḍavas, are Dhṛtarāṣṭra's nephews. They endure endless cruelties at the hands of the Kauravas. Denied their father's palace, the Pāṇḍavas build and fortify the city of Indraprastha, making it their capital.

A final outrage is committed when Draupadī, the Pāṇḍava's common wife, is dishonored by Duryodhana, Dhṛtarāṣṭra's primary son. This act takes place immediately after Yudhiṣṭira, the eldest Pāṇḍava, loses the throne to the Kauravas in a game of chance. Consistent with the narrative, the exile motif is inverted and the Pāṇḍavas, rather than the Kauravas, are sent into exile. Thirteen years pass while preparations for the "final

battle" are made.

The "final battle" is joined on the field of Kurukṣetra, where many of the most prominent heroes of the age are slain, as were most of the Kauravas in single combat. From the perspective of mythical time, the Battle of Kurukṣetra is followed shortly by the Kaliyuga, the earth's last, debased era before the destruction of the world.

Patterns

By reconstructing a proto-myth, some insights into the process of its evolution may be gained. It is clear from the evidence that the relative importance of specific deities and their functional significance changed both spatially and temporally and these factors affected their role in the "final battle". For example, Lug is depicted as the savior of the gods in the *Second Battle of Mag Tuired*, while Ōðinn, Lug's Germanic counterpart, is slain but revenged by his son Vīðarr. Lug shares characteristics with both Ōðinn and Vīðarr, implying a convergence of functions in the Irish version or divergence in the Norse. The occurrence of blind or semi-blind demonic figures in the "final battle" theme (Balor, Dhṛtarāṣṭra, Höðr) suggest that, in a broader mythological context, this characteristic may have been confused or conflated with a one-eyed god like Lug or Ōðinn or their epic personifications (e.g., Horatius Coclēs, Cū Chulainn). Motifs which receive greater attention in one tradition can provide insights to vague or obscure references in others. For example, Brutus's silence was a ruse to avoid the detection of his true character by his ruthless uncle. Why this epithet was applied to Lug and Vīðarr is not explained, although both, like Brutus, appear suddenly, displaying surprising skills just when the gods' needs are greatest.

Recognizing the structure of a proto-myth does not ensure a complete understanding of its social significance. All the known versions show signs of influence from other religious traditions as well as the accumulated impact of centuries of social change. For this reason, the outcome and aftermath of the "final battle" differ in each version. Consequently, little light is shed on whether the proto-culture's concept of cosmic time is cyclic or lineal. What can be affirmed is that a complex, cosmic ending myth existed in the PIE period. Moreover, in view of the widespread occurrence of epic versions of the "final battle" theme and the co-occurrence of an epic and mythic version in Scandinavia, it is likely that a transposed epic version had evolved in the Proto-Indo-European period. *See also* **War of the Foundation**. [S.T.O.B]

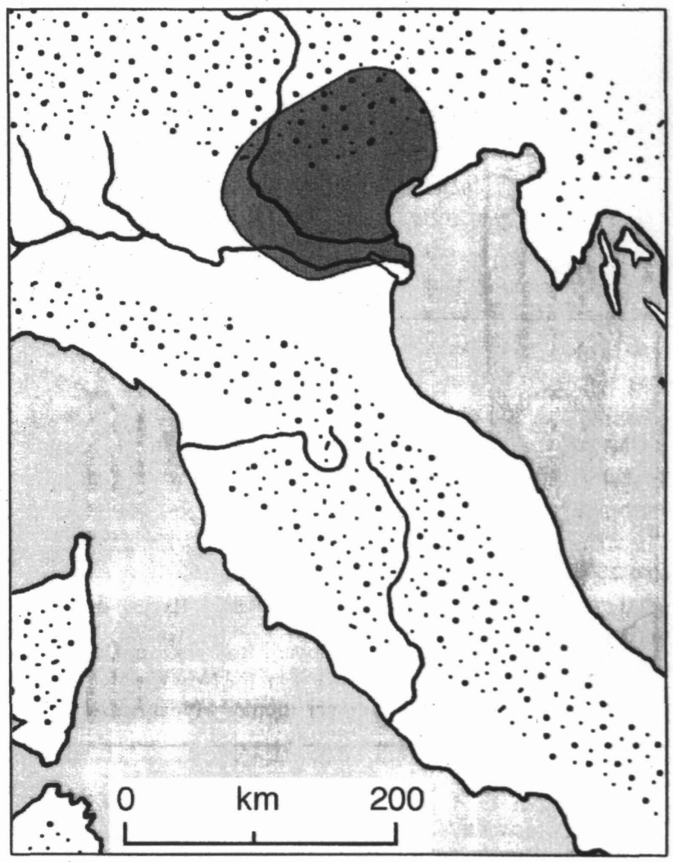
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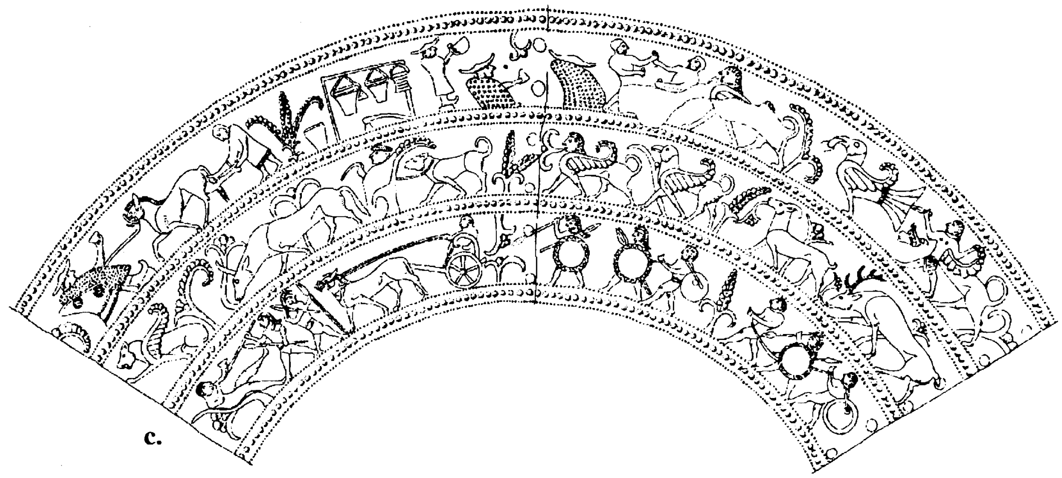
Este a. Distribution of the Este culture.

ESCULENT ROOT *see* VEGETABLES

ESTE CULTURE

The Este or Atestine culture was the Iron Age culture (*c* 900–182 BC) of the Veneti of northeast Italy. It takes its name from their chief town of Ateste (modern Este). It is divided chronologically into four main phases: Este I (900–750 BC), Este II (750–575 BC), Este III (575–350 BC) and Este IV (350–182 BC). The main centers of the Veneti were the towns of Este, Padua, Verona and Vicenza. Here there is some evidence for architecture (both circular and rectangular huts or houses) but most of our evidence derives from shrines and, especially, cemeteries. The former include offerings of bronze figures (warriors on foot and horseback) and other evidence of votive deposits. Burial was by cremation in an urn and graves were marked with tombstones and in some instances were divided into what were presumably family groups separated by walls. By the fifth century BC inscriptions begin to appear on stone pillars and then votive objects, especially bronze pins, and tombstones. Altogether these have yielded approximately two-hundred inscriptions in Venetic, an IE language of disputed relationship but generally held to be close to (if not included within) the Italic languages. Whatever its precise linguistic ancestry, from an archaeological point of view the Este culture emerges out of the Proto-


b.


c.

Este b. Scabbard from Este; c. Decoration from the Benvenuti situla (*c* sixth century BC): the ornament mixes motifs from the Near East, e.g., the winged lions and centaurs, with local scenes, generally interpreted as funeral ceremonies with attendant feasts, races and war-games.

Villanovan culture that spanned much of the length of Italy and underlies the later cultures of the Italic languages.

In addition to inscriptional evidence, the Este culture provides graphic representations of rituals. During the sixth and fifth centuries the Este culture was one of the main centers in the production of situla art, the decorating of large bronze buckets. The original purpose of the situlae was as wine serving sets but they were subsequently employed as urns. The scenes depicted on the situlae have been interpreted by some as incidents from funerals which might include games, feasts, and processions. Este art was not confined to situlae but is also found on other types of sheet metal.

By the fourth century, Celts had come to dominate the plain of the Po river and the Veneti adopted much of their material culture from the Celts. By 182 BC, the Veneti accepted Roman leadership and were acculturated linguistically within the Roman state.

See also Golasecca Culture; Italic Languages; Venetic Language; Villanovan Culture. [J.P.M.]

EVENING

***u̯ésperos ~ *u̯ékeros** 'evening'. [*IEW* 1173 (**u̯esperos*); Wat 78 (**wes-pero-*); Buck 14.46]. Lat *vesper* 'evening', Lith *vākaras* 'evening', Latv *vakars* 'evening', OCS *večerŭ* 'evening', Grk *ἕσπερος* 'evening', Arm *gišer* 'evening'. The distribution of this root suggests a word of the center of the IE world. A reduced form of the root is seen in Gmc **u̯est-* (< **u̯es-to-*), e.g., OE *west* 'west' (> NE *west*)(the direction of the sunset).

See also Dawn; Early; Night. [P.B.]

EXCHANGE

mei- 'exchange'. [*IEW* 710 (**mei-*); Wat 40 (**mei-*); GI 657 (**mei-(n)-*)]. Latv *mīju* 'exchange', Av *fra-mita-* 'changed', OInd *máyate* 'exchanges', *mináti* 'exchanges, deceives', TochB *mäsk-* (< **mi-sk̑e/o-*) 'exchange' (*weṣ mäsk-* 'take the guise of, disguise oneself as'). Cf. also the *o*-grade nouns **moinos* and **moinis*: OIr *mōin* (*DIL māin*) 'value, treasure', *dag-mōini* (*DIL dag-māin* 'benefit') 'good gifts', Wels *mwyn* 'value', Lat *mūnus* 'duty, charge, responsibility; public office; gift', *commūnis* 'common', OE *gemǣne* 'common' (> NE *mean*), OHG *gimeini* 'common', Goth *gamains* 'common', Lith *maĩnas* 'exchange', Latv *maĩna* 'exchange', OCS *měna* 'exchange, change', Av *maēniš* 'punishment'. Benveniste explains the derivation of Lat *mūnus* 'duty, charge, responsibility; public office' from **mei-* as a mark of reciprocity of services expected for the appointment of a magistrate, whose main duty to the community was to provide for games and spectacles. Distribution suggests PIE status.

meit- 'exchange'. [*IEW* 715 (**mei-t(h)-*); Wat 40 (**mei-*); GI 657 (**mei-*)]. Lat *mūtō* 'change', ON *meiðmar* 'gift', OE *māðum* 'gift', Goth *maidjan* 'change', Latv *mietuôt* 'exchange', OCS *mitě* 'exchange', Av *miθō* 'turned about', OInd *méthati* 'exchanges'. [*IEW* 710 (**mei-*)]: derivatives in *-t-*: Lat *mūtō* '(ex)change', Goth *maiþms* 'gift', Av *miθwara-* 'paired', OInd *mitháti* 'exchanges', *Mitrá-* 'god of contracts'. Here we can see, especially in the sense developed in Avestan, that the exchange is viewed as reciprocal or mutual, hence balanced as a pair, rather than commercial, i.e., advantageous to only one of the parties involved. Similarly, the Germanic

forms derived from *maiþm- tend to occur in contexts that suggest archaic usage of the term (e.g., ON *meiðmar* is found only in the plural and in the Eddas in what may have been inherited as a fixed phrase of poetic diction [ON *fjǫlð meiðma* = OE (*Beowulf*) *mādma fela* 'much treasure'], and the word occurs but once in Gothic). Thomas Markey has suggested that the word retained its early semantic field of gift-exchange. In this context, where gift exchanges cemented personal relationships between individuals, clans or tribes, one can understand how the Old Indic (and Iranian) god *Mitrā-* could mean 'friendship' as well as 'contract'.

u̯es-no- 'purchase'. [*IEW* 1173 (**u̯es-no-*); Wat 78 (**wes-no-*); GI 650 (**we/os-(n-)-*); BK 484 (**wus-/*wos-*)]. Lat (acc.) *vēnum* 'that which is sold' (cf. *vēnum īre* 'to go to be bought' and *vēnum dare* 'to put up for sale' > *vendere* 'to sell'), OCS *vĕno* 'bride-price', Myc *o-no* 'price', Grk *ὦνος* (with problematic lack of *ϝ*) 'price (usually of a captive)', *ὠνέομαι* 'buy', Arm *gin* 'price', Hit *wasi* 'buys', *usnyazi* 'sells', OInd *vasná-* 'price', *vasnayáti* 'bargains, haggles'. Cf. also NPers *bāzār* 'market' (> NE *bazar*) from a compound **wahā-čarana* 'market-walk about'. From **u̯es-* 'buy'. Distribution indicates PIE status.

kʷrei(h₂)- 'pay' (pres. ***kʷrinéh₂ti***). [*IEW* 648 (**kʷrei-*); GI 650–651 (**kʰᵒer-/*kʰᵒr-ei-*); Buck 11.81; BK 321 (**kʷ[ʰ]ar-ay-/*kʷ[ʰ]ər-ay-*)]. OIr *crenaid* 'buys', Wels *prynu* 'redeem' (Celtic < **kʷrinā-*), ORus *krĭnuti* 'buy' (with a transfer from **-neh₂-* to **-neu-*), Grk **πρίαμαι* 'buy', NPers *xarīdan* 'buy', OInd *krīṇā́ti* 'buys', TochB *käry-* (subj. *kärnā-* < **kʷrinā-*) 'buy'. Cf. the derivatives: OIr *tinnscra* 'bride-price', Lith (gen.) *krieno* 'of the bride-price', Latv *kriens* 'bride-price', OInd *krayá-* 'price', TochA *kuryar* 'trade', TochB *karyor* 'trade'. Distribution indicates PIE status. Derivatives in both Celtic and Baltic suggest that one of its specifications in PIE was 'bride-price'. In a non-monetary society it would indicate the exchange value of things, and in the patriarchal organization of Indo-European society, it applied in particular to what was given in exchange for the bride.

The semantic distinction between **u̯es-no-* and **kʷrei-* in Greek, where the two cognate forms exist alongside one another, suggests that **u̯es-* is to be associated with the actual business transaction, the haggling and purchase, while **kʷrei-* indicates the payment made at the conclusion of the transaction. Although originally separate as two different aspects of a business transaction, most IE stocks have tended to retain only one of them.

déh₃r̥ (gen. ***déh₃nos***) 'gift'. [*IEW* 225 (**dō-no-m*, **dō-ro-m*); Wat 15 (**dō-*); GI 656 (**t'oH-r-/n-*); BK 121 (**t'uw-/*t'ow-*)]. OIr *dān* 'gift', Wels *dawn* 'gift', Lat *dōnum* 'gift', Lith *duonis* 'gift', OCS *danĭ* 'gift', *darŭ* 'gift', Grk *δῶρον* 'gift', Arm *tur* 'gift', OInd *dā́na-* 'gift'. From **deh₃-* 'give'. Distribution indicates PIE status.

per- 'exchange, barter' (< *'transport across'?). [*IEW* 817 (**per-*); Wat 50 (**per-*); Buck 11.82; BK 37 (**p[ʰ]ar-/*p[ʰ]ər-*)]. OIr *ren(a)id* 'sells, barters, exchanges', Lat *interpres* 'go between', *pretium* 'price', *paris* 'like, similar', Grk *πέρνημι* 'sell', Av *pairyante* 'were compared', perhaps OInd *pā́ṇate* (< **pr̥nate*) 'bargain, haggle' (if this word does not belong with the following entry). The vocalism of the Greek verb is problematic as a zero-grade would have been expected in such a form that reflects an archaic type of present with a nasal infix. This may be seen in the dialectal (Hesychius) form *πορνάμεν* 'to sell' and in the verbal adjective *πόρνη* (< **pr̥-néh₂-*) 'prostitute' (< *'sold'). The earliest use of the term applies to sales abroad (cf. Homeric *πέρην ἁλός* 'across the sea') and refers to the sale of slaves abroad. It is derived, like many Greek verbs meaning 'transport, cross' (e.g., *πόρος* 'river crossing, passage', *πορεύω* 'transport', *πείρω* 'cross the sea', *πέρᾱ* 'beyond, across', *πέρανδε* 'abroad') from **per* 'through, across' and its development can be seen in *πείρω* which originally meant 'pierce through' (e.g., a piece of meat on a spit), hence 'open a road, cross the sea' > 'transport (across)'; cf. the related OCS *na-perjǫ* 'pierce', OInd *pársati* 'may he cause to go through', etc. At least of late IE status.

pel- '± sell'. [*IEW* 804 (**pel-*); Wat 48 (**pel-*); Buck 11.82]. ON *falr* (< **polos*) 'to be sold', OHG *fāli* (< **pēli̯os*) 'to be sold', Lith *peĨnas* 'profit', Latv *pęlns* 'profit', OCS *plĕnŭ* 'booty', Rus *polón* 'booty' (Balto-Slavic < **pelno-*), Grk *πωλέω* 'sell', perhaps OInd *pā́ṇate* (< **pr̥nate*) 'bargain, haggle' (if this word does not belong with the previous entry); perhaps TochB *plänk-* 'come up for sale' (if < **pl-enk-* as Gmc **bringan-* 'bring' is from **bhr-enk-*). With the only certain cognates deriving from the northwest, this has only late dialectal status, a conclusion consonant also with the presumption that in primitive systems of exchange, the transaction was reciprocal rather than specially advantageous to one side or the other.

Indo-European Exchange

Exchange in pre-state societies is generally seen as an ongoing social contract between individuals, clans or tribes. Exchange relationships may vary considerably. In generalized reciprocity we find the type of constant exchange relationships that might obtain within a family where food, goods, etc., might freely flow from one member to another. Balanced reciprocity ideally involves exchange relationships where neither side seeks to gain at the expense of the other although reality may fall short of the theoretical goal for a variety of reasons, e.g., discrepancies in the exchange value, social standing of the individuals involved. Balanced reciprocity is most often found to exist between families, lineages, clans and even within tribes, although the expectation of parity may decline as one moves further from one's closer kinship ties. The semantic connotations revealed at least in Germanic and Iranian which reflect "commonness" or "parity" for PIE **mei-* suggest that this term may have been associated with a system of balanced reciprocity. Beyond the tribal level, one may encounter more frequently negative reciprocity, a system comparable to modern commercial systems where each party seeks to profit over the other. Here one is dealing with outsiders where the moral obligations pertaining to exchange

may no longer be felt compelling.

The exchange may well involve the apparent presentation of a gift (**déh$_3$r̥*) with reciprocation required by the moral code of the individuals involved (cf. the Old Norse *Hāvamāl* [145]: *ey sēr til gildis giọf* 'gift looks for gift'). This concept of expected reciprocation may be bound up with the frequent appearance of opposed perspectives in the meanings assigned to words for 'give' and 'take', e.g., **h$_4$ei-* yields Grk *αἴνυμαι* 'take' but TochA *e-* 'give'; **deh$_3$-* has Lat *dō* 'give' but Hit *dā-* 'take'. Non-reciprocation may be punished by bad-luck, illness, etc. The reciprocation, however, need not be simultaneous and the receipt of a gift may entail future obligations. In terms of political theory, the exchange of commodities, including women in marriage (cf. the semantic ranges of both **k^{w}reih$_a$-* and **u̯es-*), cements contractual friendship and helps to insure peace in situations that might otherwise result in either warfare or mutual avoidance. As observed in Marcel Mauss's celebrated study of gift exchange, there are three options for groups of men who come together: hostility, avoidance or mutual accommodation effected by the exchange of gifts.

By the Bronze Age there is clear evidence for centralized exchange or redistribution systems seen, for example, in Mycenaean Greek where the overwhelming majority of the Linear B tablets comprise the records of palace-based economies. Here, chieftains were able to solicit from their subjects various goods (through taxes) which might then be not only consumed by the elite but also redistributed among the population, stored in case of need, or converted into other commodities by way of exchange systems that could procure luxury goods abroad (cf. **per-* 'exchange [abroad]'). Although easily attested among the socially more complex societies of the later Bronze Age, i.e., after *c* 1500 BC, such systems of redistribution are believed to have begun much earlier among some Neolithic and early Bronze Age societies where they provided a stimulus to increasing social complexity.

The idea of actual "selling" pertains to a money economy which would not emerge until millennia after the dispersal of the IE stocks. Thus, Emile Benveniste explained the meaning of ON *selja* 'deliver, sell' with reference to Goth *saljan* 'bring an offering to a divinity' by quoting Tacitus to show that when someone forfeited his freedom in gambling, the winner would try to wipe out his feeling of guilt and shame for having reduced his opponent to servitude by way of an offering. This concept predated the establishment of commercial relations and a similar semantic shift is to be found in the meaning of the Germanic verb **bugjan* 'liberate, redeem someone' (from a servile condition) which developed into NE *buy*. Hence, both terms were originally associated with religious concepts.

See also COMPENSATION; GIVE; TAKE. [E.C.P., J.P.M.]

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EXCREMENT

k̂ók^{w}r̥ (gen. ***k̂(e)k^{w}nós***) 'excrement, dung, manure'. [*IEW* 544 (**kek$^u̯$r-*); Wat 28 (**kek^w-*); Buck 4.66]. Grk *κόπρος* 'dung, manure', NPers *sargīn* (< **sagr-īn*) 'dung', OInd *śákr̥t* (gen. *śaknás*) 'excrement, dung'. From **k̂ek^w-* 'defecate'; cf. Lith *šikù* 'defecate'. See discussion in next entry.

sók̂r̥- (gen. ***s(e)k̂nós***) '(human) excrement'. [cf. *IEW* 947–948 (**sk̂er-(d)-*); Wat 60 (**sker-*); GI 717 (**sk̂^{h}er/n-(t')*); Buck 4.66]. ON *skarn* 'dung, manure, compost', OE *scearn* 'dung, manure', Latv *sārṇi* 'slag, excrement; menstruation' (the Germanic and Latvian forms represent a conflation of the *r*- and *n*-stems of this noun), OCS *sĭrati* 'defecate', Rus *sór* 'dung', *serú* 'defecate', Grk *σκῶρ* (gen. *σκατός*) '(human) waste, excrement', Hit *sakkar* (gen. *saknas*) 'excrement', (reduplicated) *za-sgar-ais* 'anus' (< *'excrement-mouth'), Av *sairya-* 'dung'. Sometimes connected with the following word but note the difference in velars, **k̂* vs **k*.

Both **k̂ók^{w}r̥* and **sók̂r̥* would appear to be IE in distribution, with evidence for the latter being somewhat stronger. The two words may have been distinguished in that **sók̂r̥* primarily referred to human excrement while **k̂ók^{w}r̥* denoted the agriculturally usable animal dung.

kerd- '± defile, defecate'. [*IEW* 947–948 (**sk̂er-(d)-*); Wat 60 (**sker-*); GI 717 (**sk̂^{h}er/n-(t'-)*)]. Lat *mūscerda* 'mouse-dung', *bu-cerda* 'cattle-dung', *sū-cerda* 'pig-dung', NHG *harz* (< **kordo-*) 'resin, rosin, gum', Khot *khārgga-* (< **xarð-ka-*) 'mud', *saṃ-khal-* (< **tsama-xarð-*) 'smear, defile', MPers *xard* 'clay', Shughni *šarθk* 'clay', *šarð-* 'defecate', Pashto *axēṛəl* 'to plaster' (the Iranian all from **kh-*), OInd *kardama-* 'mud, slime, mire; dirt, filth', TochA *kärtkāl* 'swamp, marsh', TochB *kārkkālle* 'swamp, marsh' (the Tocharian forms are derivatives of the verb *kärtk-* (< **kr̥d-sk̂e/o-*). This word may not have meant 'excrement' in *sensu stricto* in PIE but probably included the notion of excrement as part of a more general meaning. Certainly of PIE age.

g^{w}uh$_x$- 'defecate', ***g^{w}uh$_x$tos*** 'dung, muck'. [*IEW* 484 (**g$^u̯$ōu-*); GI 483 (*k^{o}ōu-*)]. Arm *ku* (< **gūto-?*) 'dung, manure, muck', Av *gūθa-* 'dirt, excrement', OInd *gūtha-* 'dung' (the Indo-Iranian **-th-*, rather than **-t-* may be due to the affective nature of the word), *guváti* 'defecates'. The Armenian and Indo-Iranian words are certainly related and guarantee an IE word of the east. Perhaps Lat *(im)būbināre* 'defile with menstrual blood' belongs here if, as is usually supposed, it is for **būvināre* and borrowed from Osco-Umbrian (in any case an affective word such as this might very well be subject to phonological deformation). Also possibly here is OHG *quāt*

(if < $*g^w\underset{\circ}{u}eh_1dho$-) 'dirt, excrement'. If one or both of these latter possibilities belongs here, then we have a word whose PIE status is guaranteed. GI, following earlier suggestions, would divide $*g^wuh_x$- as $*g^wu\text{-}h_x$-, i.e., as $*g^wu$- 'cow' plus some suffix. This is an attractive analysis and would mean that originally the word must have meant 'cow-dung'.

***k̑uh$_x$dós** 'dung'. [*IEW* 627 (**k̑ūdh-*)]. Lith *šū́das* 'dung, muck', Latv *sūds* 'dung, muck', Grk (Hesychius) *ὑσκυθά* 'pig-dung', *κυθώδης* 'foul-smelling'. A word of the center of the IE world.

***ĝhed-i̯e/o-** (Albanian, Greek), ***ĝhed-e/o-** (Old Indic) 'defecate'. [*IEW* 423 (**ghed-*); Buck 4.66]. Alb *dhjes* 'defecate', Grk *χέζω* 'defecate', (Hesychius) *χοδιτεύω* 'retire to relieve oneself', (Hesychius) *χόδανον* 'rump', Av *zaδah-* ~ *zadah-* 'rump', OInd *hadati* 'defecates', *hadana-* (only attested in the work of lexicographers) 'excretion'. At least an "easternism" in late PIE and, where the two existed side-by-side, more formal than the following word.

***kak(k)eh$_a$i̯e/o-** 'defecate'. [*IEW* 521 (**kakka-*); Wat 26 (*kakka-*); Buck 4.66]. MIr *caccaid* 'defecates', Wels *cach* 'defecate', Lat *cacō* 'defecate', Rus *kákatĭ* 'defecate', Grk *κακκάω* 'defecate', Arm *k'akor* 'excrement'. Originally a "nursery word".

See also ANATOMY; DIRT. [D.Q.A.]

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EXTEND

***h$_3$reĝ-** 'move in a straight line; extend, stretch'. [*IEW* 854–857 (**reĝ-*); Wat 54 (**reg-*); BK 591 (**rak'-/*rək'-*)]. OIr *rigid* 'stretches', MWels *ro(d)i* 'give', Lat *regō* 'direct in a straight line', ON *rekja* 'stretch, spread out', OE *reccan* 'stretch out; be concerned about' (> NE *reck*), OHG *rec(c)han* 'stretch out', Goth *uf-rakjands* (pres. part.) 'reach out, extend', Lith *rę́žti* 'stretch', Latv *riêzt* 'stretch up', Grk *ὀρέγω* 'stretch', Hit *harganāu-* 'palm, sole' (cf. Grk *χεῖρας ὀρεγνύς* 'stretching out the hands'), Av *rāzayeiti* 'adjusts, arranges', OInd *ṛñjáti* ~ *ṛ́jyati* 'stretches, stretches out', TochAB *räk-* 'stretch out, cover'. The root is so widely attested that it may be reconstructed to PIE with a strong degree of certainty. The attested present-tense forms, however, do not correspond very neatly: Old Irish exhibits the reflex of a suffix **-i̯e/o-*; in Old Indic, however, the form *ṛñjáti* with a nasal infix is normally found (although occasionally *ṛ́jyati* is found); in Greek, the present is thematic (although in collocations with *χεῖρας* the evidence points to a *-νυμι* verb as well), and in Avestan and Gothic a causative form of the verb is found. Two interrelated words are based on this root: one, a set of forms meaning 'correct, right', and the other, with a lengthened grade form of this root, provides a meaning 'king'.

***temp-** (< ***ten-p-**) 'stretch'. [*IEW* 1064–1065 (**temp-*); Wat 69–70 (**temp-*)]. Lat *tempus* 'time', ON *þambr* 'thick, swollen', Lith *tem̃pti* 'stretch out, pull out', *tìmpa* 'sinew', OCS *tępŭ* 'thick', ?Arm *t'amb* 'saddle', TochA *tampe* 'power', TochAB *cämp-* 'be able to' (?). The derivatives here all express the notion of stretching or pulling. A great deal of uncertainty exists as to whether Lat *tempus* belongs here; if it does, then it suggests that time was viewed metaphorically as a linear object as it is today.

***ten-** 'stretch'. [*IEW* 1065–1066 (**ten-*); Wat 70 (**ten-*); GI 33 ($*t^hen$-); Buck 9.32; BK 106 ($*t[^h]an^y$-/$*t[^h]ən^y$-)]. Lat *tendō* (< **ten-do-*) 'stretch', ON *þenja* 'stretch out', OE *þenian* 'stretch', OHG *den(n)en* 'stretch out', Goth *uf-þanjan* 'stretch out', Lith *tìnti* 'swell', Latv *tīt* 'wind, roll up', Alb *ndej* ~ *ndër* (< $*h_1en\text{-}ten(\underset{\circ}{i})e/o$-) 'extend, spread, stretch', Grk *τανύω* 'stretch', Av *pairi-tanuya-* 'wish to keep a way', OInd *tanóti* 'expands, extends'. This root is securely reconstructible to PIE. The present-tense forms exhibit several different suffixes: Greek and Old Indic show **-u-*, Germanic has causative forms; Latin shows the suffix **-de/o-*. A large number of derivatives, e.g., Lat *tenuis*, OE *þynne* (> NE *thin*) show the meaning 'thin'. Cf. also **tn̥-tó-s* 'stretched': Lat *tentus* 'stretched', Grk *τατός* 'stretched', OInd *tatá-* 'stretched'.

***teng(h)-** 'pull'. [cf. *IEW* 1067 (**tengh-*); BK 106 ($*t[^h]an^y$-/$*t[^h]ən^y$-)]. Lat *tēmō* (< **tengh-s-mon-*) 'chariot pole', ON *þísl* 'wagon-pole, shaft', OE *þīxl* 'wagon-pole, shaft', OHG *dīhsila* 'wagon-pole, shaft' (< Proto-Gmc **þenslō*), OCS *ras-tęgǫ* 'pull apart', Av *θang-* 'pull' (with unexpected initial *θ-* rather than *t-*). The geographical distribution of the attestations would seem to guarantee PIE status. An enlargement of **ten-* 'stretch'.

***ten-s-** 'pull'. [*IEW* 1068–1069 (**tens-*); Wat 70 (**tens-*); BK 106 ($*t[^h]an^y$-/$*t[^h]ən^y$-)]. OHG *dinsan* 'pull', Goth *at-þinsa* 'pull', Lith *tę́sti* 'stretch, pull', OInd *taṃsayati* 'draws to and fro'. The root **ten-* is extremely well attested; however, the extended form **ten-s-* is, aside from the Old Indic form, only found in western IE suggesting the possibility that this form was created independently in the west and east. From **ten-* 'stretch'.

***reiĝ-** 'extend, stretch out (a body part)'. [*IEW* 862 (**rēiĝ-*); Wat 54 (**reig-*)]. OIr *ringid* 'twists, tortures', OE *rǣcan* 'stretch out, extend' (> NE *reach*), OHG *reichen* 'reach, attain', Lith *réižti* 'stretch, tighten'. Distribution suggests a west IE dialectal form.

***seik-** 'reach for, stretch out the hands'. [*IEW* 893 (**sēik-*)]. Lith *síekti* 'reach for something', *seikiù* 'measure capacity', Grk *ἵκω* 'arrive, reach', *ἱκάνω* ~ *ἱκανέω* 'come; reach, attain', TochB *sik-* 'set foot' (< *'reach out the foot'), TochA *ṣik* 'footstep', TochB *ṣiko* 'footstep'. The phonological correspondence between the cognates and the semantic shift seen here in Greek from 'reach for' to 'arrive' is similar to that shown in NE *reach*. Distribution suggests PIE status.

?*tek- '± stretch out to'. [*IEW* 1057–1058 (**tek-*)]. OIr *ateich* (*DIL ad-teich*) (< **ad-tech-*) 'entreats', *techtaid* 'possesses', ON *þiggja* 'take', OE *þicgian* 'take, receive, partake of', OHG *dicken* 'ask about', Lith *tèkti* 'reach, suffice; stretch oneself out'. Numerous doubts exist concerning this cognate

set. OIr *ateich* 'entreats' may more easily be derived from the verbal root *tech-* 'flee, run' which then yielded 'flee' > 'seek refuge' > 'implore, entreat' rather than this set. The Lithuanian form may belong with a root _*tenk-_ 'thrive, make progress' seen in Goth *þeihan* 'thrive, succeed'. If we are left with only OIr *techtaid* and ON *þiggja*, it is possible to reconstruct a root meaning 'stretch out the hand' which may have then come to mean both 'possess' and 'entreat'; however, with so few forms clearly belonging to this cognate set it is impossible to reconstruct the root with any certainty, even for west IE.

See also KING; LEADER; RIGHT; THIN. [M.N.]

EXTINGUISH

_*g^{w}es-_ 'extinguish'. [*IEW* 479 (_*g$^{u̯}$es-_); Wat 25 (_*g^{w}es-_); GI 43]. Lith *gèsti* 'go out', Latv *dzist* 'extinguish', OCS *ugasiti* 'extinguish', Grk **σβέννῡμι** 'extinguish', Hit *kist-* 'go out', OInd *jásate* 'be extinguished', TochA *käs-* 'go out', TochB *kes-* 'go out'. Semantically this set fits very well but, unfortunately, the Greek argues for a labio-velar _*g^{w}-_ while Hittite supposes a simple velar _*g-_ (the rest of the set are ambiguous between these forms). The prefix **σ-** in Greek (< _*sg^{w}es-nu-_) is also unexplained. Aside from these difficulties, the root can be reconstructed with a moderate degree of confidence.

See also DEATH. [M.N.]

EYE

_*h$_{3}$ok^{w}_ 'eye'. [*IEW* 775–777 (_*ok$^{u̯}$-_); Wat 45–46 (_*ok^{w}-_); GI 688 (_*se/ok^{ho}-_); Buck 4.21]. OIr *enech* 'face', MWels *enep* 'face' (Celtic < _*h$_{1}$éni-h$_{3}$k^{w}-o/eh$_{a}$_), Lat *oculus* 'eye', ON *auga* 'eye', OE *ēage* 'eye' (> NE *eye*), OHG *ouga* 'eye', Goth *augō* 'eye', OPrus *ackis* 'eye', Lith *akìs* 'eye', Latv *acs* 'eye', OCS *oko* 'eye', *oši* (pl., historically dual) 'eyes', Grk **ὄσσε** (dual) 'eyes', **ὄμμα** (< *ók^{w}mn̥*) 'eye', **ὤψ** 'face', Arm *akn* 'eye', *ač'k'* (pl.) 'eyes', Av *aši* (dual) 'eyes', OInd *ákṣi-* 'eye', TochA *ak* 'eye', TochB *ek* 'eye'. Clearly the PIE word for 'eye'. It has been suggested that one of the PIE words for 'see', _*sek^{w}-_ is 'eye' with a prefix, i.e. _*s-(h$_{3}$)ek^{w}-_ but the resemblance is most probably completely fortuitous.

*bhrúh$_{x}$s 'eyebrow'. [*IEW* 172–173 (_*bhrū-_); Wat 9 (*bhrū-*); GI 688 (_*b^{h}ruH-_)]. OIr *forbrū* 'brows', ON *brūn* 'brow', OE *brū* 'brow, eyelid, eyelash' (> NE *brow*), Lith *bruvìs* 'brow', OCS *brŭvĭ* 'brow', Rus *brovĭ* 'brow', Maced **ἀβροῦτες** 'brows', Grk **ὀφρῦς** 'brows', Av (dual) *brvat-* 'brows', OInd *bhrū́-* 'brow', TochA *pärwāṃ* (dual) 'brows', TochB *pärwāne* (dual) 'brows'. The PIE word for 'eyebrow'.

In IE cosmology, the concepts of 'eye' and 'sun' are consistently linked to one another and in at least one case, OIr *sūil* 'eye', the word for 'eye' derives from the word for 'sun'.

See also ANATOMY; CLOSE (THE EYES); COSMOGONY; FACE; SUN. [D.Q.A.]

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EYEBROW *see* EYE

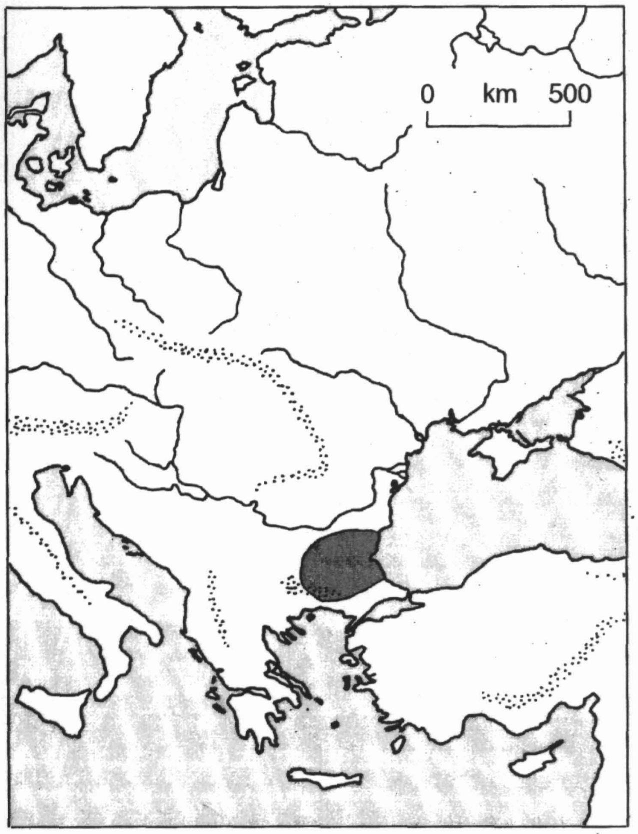
EZERO CULTURE

Ezero refers to the early Bronze Age (*c* 3300–2700 BC) culture of Bulgaria named after the major tell site of Ezero near Nova Zagora. The Ezero culture overlays the earlier late Neolithic and Chalcolithic levels of the tells which appeared to cease occupation *c* 4000–3700 BC leaving a hiatus of several centuries between the end of the Copper Age and the beginning of the early Bronze Age (Ezero) culture. The site of Ezero was surrounded by two lines of defence—an outer perimeter which enclosed an area *c* 160 m in diameter and an inner stone walled enclosure some 60 m across. The houses, which are in evidence through nine building phases, were rectangular with a percentage exhibiting apsidal ends as is also known in the Baden culture and other contemporary Balkan and Greek settlements.

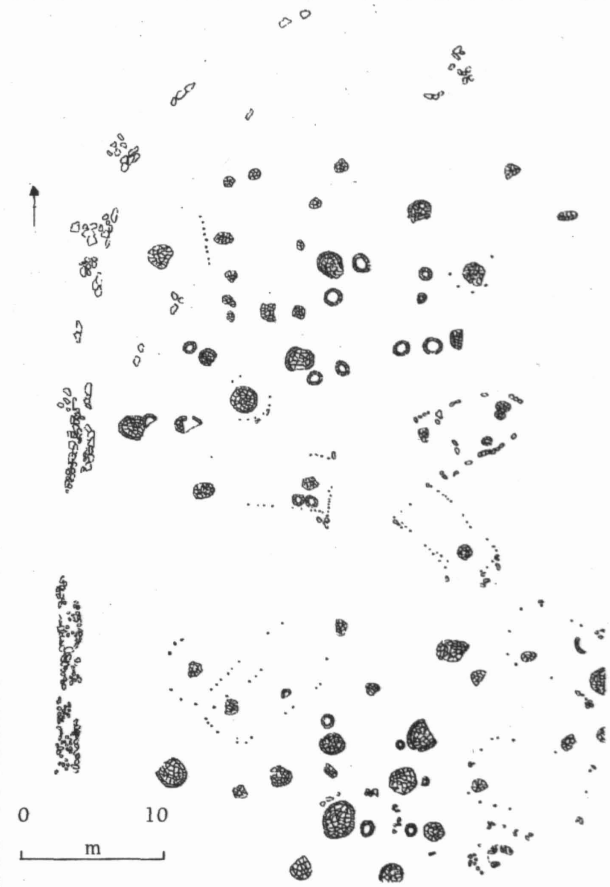
Remains of the subsistence economy provide useful information about the livestock, wild fauna and agriculture of the early Bronze Age of the Balkans. The cereals included wheat (einkorn, emmer) and barley which were augmented with small amounts of lentils, peas and substantial quantities of broad bean (*Vicia sativa*). There were also some traces of the grape (*Vitis vinifera*). Cattle predominated among the livestock followed by sheep/goat and pig. Wild fauna included aurochs, red deer, roe, wild pig and small amounts of fallow deer, hare, beaver, fox, wolf and bear. The technology exhibited local bronze working, the earliest showing copper-arsenic alloys (which are linked with similar material in the neighboring Usatovo culture). The ceramics reveal numerous stylistic similarities with Troy to the southeast and the Baden culture of the central Balkans.

The organization of the Ezero culture is generally regarded as more ranked than that of the earlier Neolithic cultures since settlements not only included tell sites but what are regarded as ancillary dependent settlements. This has prompted the theory that the fortified Ezero settlements served as citadels and had begun to approach the level of social complexity that was emerging in northwest Anatolia at this same time, e.g., at Troy.

The origins and the nature of external influences concerning the Ezero culture are controversial. Some have argued that it was rooted distinctly in the earlier Neolithic cultures and merely exhibits a cultural progression. Followers of the Kurgan hypothesis emphasize the settlement hiatus on the tells and attribute the culture to an amalgamation of local Neolithic populations and steppe tribes. Still others, impressed by its similarities with northwest Anatolia, speak of some population movement from Turkey while others would reverse the direction of movement and see Troy and related sites as extensions of Balkan cultures.



Ezero a. Distribution of the Ezero culture.



Ezero b. Plan of layer 9 at Ezero with defensive walls, outlines of rectangular and apsidal houses, and stone lined hearths.

The significance of the Ezero culture in Indo-European studies far exceeds its own regional identification as the future home of Thracian tribes. For theories of IE origins that exclude Anatolia from the IE homeland, Ezero offers a possible explanation and cultural link between the steppe, the Balkans, and Anatolia which may account for the early spread of an IE stock into Anatolia that still retains genetic connections with Europe. Alternatively, for those who wish to reverse population movements, it may offer some evidence for emigration from Anatolia or, more plausibly, the creation of an interaction sphere that would have embraced populations all around the shores of the Black Sea.

See also BADEN CULTURE; CERNAVODA CULTURE; COȚOFENI CULTURE; TROY. [J.P.M.]

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Ezero c. Bronze dagger (12.9 cm); d. Handled cup; e. Handled cup.

• F •

FACE

***h$_1$éni-h$_3$k^w-o/eh$_a$-** 'face'. [*IEW* 311 (**en*), 776 (**ok^u-*)]. OIr *enech* 'face', MWels *enep* 'face', Grk *ἐνωπή* 'face', Av *ainika-* 'face', OInd *ánīka-* 'face, front'. In origin a compound, '(what is) in (front of) the eye'. Apparently of PIE date.

***próti-h$_3$(ō)k^w-o/eh$_a$-** 'face, front'. [*IEW* 776 (**ok^u-*)]. Grk *πρόσωπον* 'face', OInd *prátīka-* 'face', TochA *pratsak* 'breast, chest', TochB *pratsāko* 'breast, chest'. Another compound of PIE date, '(what is) in front of the eye'. The exact, and unexpected, equivalence of the Greek and Tocharian formation, **próti-h$_3$ōk^w-o/eh$_a$-*, is very significant.

See also ANATOMY; EYE. [D.Q.A.]

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FALCON

***kap-** 'hawk, falcon'. [*IEW* 528 (**kap-*); Wat 27 (**kap-*)]. ON *haukr* 'hawk', OE *heafoc* 'hawk' (> NE *hawk*), OHG *habuh* ~ *habuk* 'hawk', Rus *kóbec* '(type of) falcon'. A western isogloss offers the only cognate set for the 'hawk' or 'falcon'. The multivalent **hVr-C-* which supplies bird names ranging from 'crow' to 'hen' also underlies Grk *κίρκος* 'falcon' while *ἱέραξ* was commonly used in early literature for the smaller hawks. Armenian seems to lack an early term for 'falcon' or 'hawk' and the eagle word *arciw* was used as a covering term as it is still today by the ornithologically uneducated. Av *saēna-* and OInd *śyená-* are used for both the 'eagle' and the 'falcon', and it should be noted that references to falconry are common in the earliest Indic and Iranian literature. A Slavic term, such as Rus *sókol* 'falcon' is a loan from Iranian and *jástreb* 'hawk' has no sure IE etymology. Lat *accipiter* 'hawk, falcon' is derived from pre-Lat **acu-peter* 'sharp-winged' or, as suggested by GI, 'fast-flying'.

Consistent with the lexical evidence, the term 'falcon' is much confused, but technically refers to any bird of the order *Falconidae*, of which the hawks are genus *accipiter* while the falcons are genus *falco*. The falconer uses the term 'falcon' for any bird he trains, whether hawk or falcon or eagle. Popularly, 'falcon' is used for any of the smaller birds of prey. The ornithologist understands it as a small raptor with pointed rather than broad wings. The term 'falcon', when used strictly, thus refers to only those raptors with pointed wings, long tails and largish head. They can be described as perfect fliers, capable of great speed when attacking. But the ancients clearly made no such distinctions though there was knowledge of numerous species of hawks in ancient times.

See also BIRDS; EAGLE. [J.A.C.G.]

FALL

***k̂ad-** 'fall'. [*IEW* 516 (**k̂ad-*); Wat 26 (**kad-*); GI 61 (**K^{h}at'-*); Buck 10.23]. OIr *casar* (< **k̂ad-t-arā-*) 'hail', Lat *cadō* 'fall', *cadāver* 'corpse' (< *'the fallen'), Arm *c'acnum* (< **k̂adi̯o-*) 'fall', OInd *śad-* 'fall off, fall out (of teeth)'. Found at the extremes of the IE world it is surely old but probably in PIE a "popular" rather than the normal word for 'fall'.

phŏl-** (ph$_x$ŏl-**?) 'fall'. [*IEW* 851 (**phŏl-*); Wat 51 (**p(h)ol-*); Buck 10.23; BK 53 (**p[^{h}]ul-/*p[^{h}]ol-*)]. ON *falla* 'fall', OE *feallan* 'fall' (> NE *fall*), OHG *fallan* 'fall', OPrus *au-pallai* 'finds', Lith *púolu* 'fall', Latv *pùolu* 'fall', Arm *p'ul* 'fall, crush', *p'lanim* 'fall'. A late IE word of the west and center.

***pteh$_1$-** 'fall'. [cf. *IEW* 825 (**pet-*); BK 45 (**p[^{h}]at[^{h}]-/*p[^{h}]ət[^{h}]-*)]. Grk (Doric) *ἀπτής* 'not falling', *πτῶμα* 'fall, calamity', Hit *piddāi* (< **ptóh$_1$ei*) 'flees', *pettinu-* (< **ptih$_1$-neu-*) 'cause to run'. Cf. the derivative **ptoh$_1$tós* 'fallen': Grk

πτωτός 'fallen', Av *tāta-* 'fallen (of rain)'. Reasonably widespread, certainly old in IE. From **pet-* 'fly'.

***ped-** 'fall'. [*IEW* 791 (**pĕd-*); Buck 10.23]. Lat *pessum* 'to the ground, to the bottom', ON *feta* 'find one's way', OE *gefetan* 'fall', OCS *padǫ* 'fall', Av *paiδyeiti* 'moves down, plunges downwards', OInd *pádyate* 'falls, perishes', *páttave* '± downward'. Reasonably widespread, certainly old in IE. It is probably a derivative from **ped-* 'foot' or a derivative of the same root that also gives **ped-* 'foot'; cf. some denominative verbs derived directly from **ped-*: Lith *pėdinu* 'step lightly', *pėdúoti* 'kick'.

See also FOOT. [D.Q.A.]

FAME

***k̂léu̯es-** 'fame'. [*IEW* 606 (**k̂leu̯-os-*); Wat 31 (**kleu-*); GI 732–733 (**k̂ʰlewo-*); Buck 16.47; BK 260 (**k[ʰ]ul-/*k[ʰ]ol-*)]. OIr *clū* 'fame', Lat *cluor* 'glory', OCS *slovo* 'word', Grk *κλέ(ϝ)ος* 'fame', Av *sravah-* 'word', OInd *śrávas-* fame', TochA *-klyu* 'fame', TochB *-kälywe* 'fame'. From **k̂leu-* 'hear'. The concept is most strikingly preserved in the phrase **k̂léu̯os n̥dhgʷhitom* which is attested as Grk *κλέος ἄφθιτον* 'fame imperishable', OInd *śrávas ákṣitam* 'fame imperishable'. Cf. the related concept found in Grk *ὀνομά-κλυτος* 'famous in name', OInd *śrútyaṃ nā́ma* 'famous in name', TochA *ñom-klyu* 'fame', TochB *ñem-kälywe* 'fame'. Cf. also **k̂leumn̥tom* 'fame'. [*IEW* 605–606 (**k̂leu-mn̥-to-m*); Wat 31 (**kleu-*); Buck 19.51, 19.53]. OHG *hliumunt* 'fame', OInd *śrómata-* 'good reputation'.

The Indo-European concept of fame is particularly associated with the vocabulary of oral tradition where deeds are recorded in narratives, often epic poems. Even where the precise lexical formula indicated in Greek, Old Indic and Tocharian is no longer to be found, the same concepts may still be nested in the individual elements, e.g., OIr *clū* means 'fame' while OIr *ainm*, the cognate of Grk *ὄνομα*, OInd *nā́ma*, etc., 'name' also denotes 'reputation, renown'. In all those societies preserving a heroic literature, i.e., a literature specifically devoted to recounting in elevated style the deeds of warriors, we find a similar development. The goal of the warrior is to seek 'fame everlasting' which is not simply achieved on the battle-field but must also be recorded orally by the poets. The imperishable element of fame rests then with the oral literature in which one's deeds are recounted; it is the only means of achieving immortality in early Indo-European tradition. Hence Akhilleus in the *Iliad* must ponder whether to remain at Troy where he will most certainly die but gain 'imperishable fame' or return home, saving his life but abandoning his hope of achieving 'fame'. The early Irish epic tale, the *Tāin*, records similar sentiments when the young hero Cū Chulainn learns from a druid that he who takes up arms on a particular day although his life be short, he will have a 'name' (*ainm*) that would last forever in Ireland. Cū Chulainn willingly accepts the prophecy, expressing the sentiment that if he achieves fame, he would be satisfied with but a single day on earth. Although the sentiments expressed in the institutions of the various IE stocks from Ireland to the Tocharians may obviously involve parallel developments which might be expected of any heroic society, the cognate formula evident in Greek, Indo-Aryan and Tocharian suggest that these particular notions of fame and how it is achieved were already present in PIE society.

See also HEAR; POETRY. [E.C.P., J.P.M.]

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FAMILY

***ĝénh₁es-** 'family'. [*IEW* 375 (**ĝenos-*); Wat 19 (**genə-*); GI 653 (**k̂'en-*); BK 275 (**k'an-/*k'ən-*)]. Lat *genus* 'family', Grk *γένος* 'family', Arm *cin* 'birth', OInd *jánas-* 'family'. Distribution supports PIE status. From **ĝenh₁-* 'be born'.

?*somo-ĝn̥(h₁)-i̯o-s 'same (kinship) line'. [*IEW* 375; BK 184 (**sam-/*səm-*), 275 (**k'an̥-/*k'ən-*)]. OE *-cynn* 'kin' (> NE *kin*), Goth *samakunja-* 'of the same lineage', Grk *ὁμόγνιος* (but note lack of Siever's Law) 'of the same lineage'. This may reflect independent creations in Germanic and Greek.

***dóm** (gen. ***déms**) 'house(hold), nuclear family'. [*IEW* 198–199 (**domo-*); Wat 11 (**demə-*); GI 645–646 (**t'om*); Buck 7.12, 7.122; Szem 28; BK 133 (**t'im-/*t'em-*)]. Grk *δῶ* 'house', Arm *tun* (gen. *tan*) 'house', Av *dam-* 'house', OInd *dā́m* 'house'. Though attested only in the center and east of the IE world, its archaic formation makes it almost certain to reflect an old PIE term which might indicate both the physical manifestation of the house and the social unit occupying it. Cf. **dems-poti-* 'master of the house' in Grk *δεσπότης* 'master, lord, owner', Av *dəng pati-* 'master, lord, ruler', OInd *dám-pati-* 'master, lord, ruler'.

***dóm(hₐ)os** 'house(hold)'. [*IEW* 198–199 (**domo-*); Wat 11 (**demə-*); GI 645 (**t'om*); Buck 7.12, 7.122; BK 133 (**t'im-/*t'em-*)]. Lat *domus* 'house', *dominus* 'master of the household', Lith *nãmas* (with assimilation of **d-* to the nasality of the following *-m-*) 'house', OCS *domŭ* 'house', Rus *dom* 'house', Grk *δόμος* 'house; course of bricks', OInd *dáma-* 'house'. Directly derived from **dem(hₐ)-* 'build' or a thematicization of the previous word. Whatever the exact morphological history, clearly of PIE status.

***u̯ik̂-** 'extended family, clan'. [*IEW* 1131 (**u̯eik̂-*); Wat 75 (**weik-*); GI 646 (**we/oik̂h-*); Buck 2.82; Szem 29]. Grk *οἰκία* 'house, household', Doric *-(ϝ)ικες* 'houses, households', Av *vīs-* 'clan', OPers *viθ-* 'royal court, residence', OInd *víś-* 'dwelling; clan'; OCS *vĭsĭ* 'village'; from **u̯eik̂es-*: Goth *weihs* 'village', TochB *īke* 'place'; from **u̯e/oik̂o-*: Lat *vīcus* 'village, settlement', Umb *uocu-com* 'building', Goth *weihs* 'village'. Distribution indicates PIE status.

The family that was established by the Indo-European marriage, the genealogical descent group, was designated **ĝenh₁es-*, a neuter *s*-stem noun derived from the root **ĝenh₁-*

'be born'. This word is found in widely separated western and eastern stocks and is thus unquestionably the principal IE term for the family as a biological entity. Terms that come from a compound, 'of the same kindred', PIE **somo-ĝn̥(h₁)-i̯os*, show later phonological developments in the loss of the laryngeal and emphasize the importance that kinship reckoning came to have in later post-IE society.

With regard to the family as a social entity two terms compete. A neuter noun **domha-* refers to the members of a single household as the *o*-grade **dóm(ha)os* refers to the homestead itself, the house; metaphorically the building comes to represent the inhabitants in Italic and Slavic, although the archaic situation is indicated by locatives such as Lat *domī* 'at home' and the use of rare Grk *δῶ* 'household' and the Indo-Iranian social locution 'master of the household' preserved in Av *dəng pati-* and OInd *patir dan*. Benveniste incorrectly inverted this order, taking the *o*-grade as the social institution as in classical Latin. In actual fact athematic nouns designated the social reality and the *o*-grades the physical units as can be seen in the parallel situation with **u̯ik̂-* 'clan' and **u̯oik̂o-* 'settlement'. The first form, which designates the social unit, reflects the original PIE feminine preserved in Indo-Iranian (Av *vis-* 'clan', OInd *viś-* 'dwelling; clan') and in a series of compounds for 'master of the clan' (Alb *zot* 'lord' < **dzwåpt* < **wtsá* + **pŏt-*, Lith *viẽšpatis* 'master' and OInd *viśpáti-* 'head of the household'). The second form, **u̯óik̂os*, is the source of Lat *vīcus* 'city block' and Grk *οἶκος* 'house'. The noun **domha-* thus approximates the nuclear family and **u̯ik̂-* the extended family.

A deeper etymology for **u̯ik̂-* has been attempted from time to time but without great success. Few would accept the suggestion that it derives from **u̯eik̂-* 'bend', i.e., a hurdle or fence encircling a household group. More recently O. Szemerényi has sought the origin of the word in a verb **u̯eik̂-* 'go' (Grk *(ϝ)είκω* 'give way, withdraw', Av *paiti-vīsaiti* 'enter, visit', Yagnobi *vīs-* 'to go', OInd *viśáti* 'comes, arrives, enters'). In this way, the **u̯ik̂-* is a nominalization of the verb, a 'going, gang, a group of people on the move', which would attest an originally nomadic residential structure which was then re-applied to their later settlements. The restriction of this verb to Indo-Iranian or, only somewhat more generally, to the southeast (with the inclusion of Greek), however, makes it uncertain that it can underly the widespread word for 'extended family, clan'.

The Proto-Indo-European Family

The precise structure of the PIE family has probably been more assumed than demonstrated. There are a number of classification systems that have been applied to family structures. It has been widely presumed that the PIE communities were organized into what are variously termed communal (patrilineal), joint or extended families. In such a family, wives marry into a family dominated by their husband's father; the daughters marry outside their family and move out of their lineage into that of their husbands. Upon the death of the father, the property may be divided equally among the sons, and each may then establish his own communal family with his sons as they marry. Encountered, although very rarely, is the matrilineal version of the communal family. These forms of family can be distinguished from the stem family where only one child (by way of primogeniture [inheritance of the first born] or ultimogeniture [inheritance of the last born]) inherits the parents' property. The other sons may move out or be prohibited from marriage. The third type of family is the nuclear family where all children tend to leave their parent's household on marriage to establish their own families elsewhere (there may be a temporary phase where newly-weds live with the parents before setting up their own families). A final type is the patrilineal nuclear family. Here the patrilineal principle, which sees the disinheritance of women, is not combined with the co-residence of all the males nor of their forming a communal subsistence unit.

In a survey of Eurasian family types, the most numerous is the patrilineal communal type (43%), followed by the nuclear (28%), then stem (15%), patrilineal nuclear (11%) and then matrilineal communal (2%). The distribution of the patrilineal communal (extended) family is found from the Baltic to Vietnam and defines the center of Eurasian types while the other family systems are dispersed about the peripheries. Sagart and Todd have suggested that the principles of linguistic geography, which holds that centers innovate while peripheries conserve, suggest that the patrilineal communal type is probably a late innovation that spread over a vast area of Eurasia (they can trace its late inception, for example, in China toward the end of the first millennium BC). They also suggest that the reason for its spread in Eurasia may have been that it assembled into a single co-operative unit the fathers, sons, and their brothers which may have served as an embryonic military unit.

See also House; Kinship. [M.E.H., J.P.M.]

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FAR

***u̯ī́teros** 'far'. [*IEW* 1176 (**u̯itero-*); Wat 78 (**wi-tero-*); Buck 12.44]. ON *viðr* 'against', OE *wiðer* 'opposite' (> NE *wither* as in *withershins*), OHG *widar* 'against', Goth *wiþra* 'against', Av *vītara-* 'a further one', OInd *vitarám* 'far away'. Possibly also Lat *vītricus* 'stepfather' < 'the one farther away'. From **u̯ī-* 'in two, apart' + **-tero-*, a comparative form used both as a preposition and as an adverb denoting direction. A possible but problematic reconstruction as only Old Indic refers to 'far' and the Avestan and Old Indic forms differ with respect to the length of the first vowel.

See also Apart [A.D.V.]

FART

***pérde/o-** 'fart'. [*IEW* 819 (**perd-*); Wat 50 (**perd-*); Buck 4.64]. Wels *rhech* 'fart', ON *freta* 'fart', OE *feortan* 'fart (> NE *fart*), OHG *ferzan* 'fart', Lith *pérdžiu* 'fart', Latv *pẹ̄rdu* 'fart', Rus *perdétĭ* 'fart', Alb *pjerdh* 'fart', Grk *πέρδομαι* 'fart', Av *pərəδ-* 'fart', OInd *párdate* 'fart'. Derived nouns are seen in Wels *rhech* 'fart', ON *fretr* 'fart', OHG *furz* ~ *firz* 'fart', Lith *pir̃dis* ~ *per̃dis* 'fart', Alb *pordhë* 'fart', but they are all rather banal derivatives of the verb. Though not universally attested, in part because our texts of such languages as Tocharian and Hittite have no reason to use such a term, this verb is clearly of PIE age.

***pesd-** 'fart'. [*IEW* 829 (**pezd-*); Wat 51 (**pezd-*); Buck 4.64; BK 42 (**$p^{[h]}as^y$-/*$p^{[h]}əs^y$-*)]. Lat *pēdō* 'fart', *pōdex* 'rump, anus', perhaps NHG *fisten* 'fart', Lith *bezdù* 'fart', Rus *bzdetĭ* 'fart', Grk *βδέω* 'fart'. In origin, a phonetic variant of the previous word although it has also been claimed that **pérde/o-* indicated a louder fart than **pesd-*.

See also ANATOMY. [D.Q.A.]

FAST

***$h_3$ek̂-us ~ *h_xeh_3k̂-us** 'fast'. [*IEW* 775 (**ōk̂ú-s*); Wat 45 (**ōku-*); GI 455 (**ōk̂^{h}u-*)]. OWels *di-auc* 'not-fast', Lat *ōcior* 'faster' (and possibly *accipiter* 'bird of prey' < 'quick-winged'), Grk *ὠκύς* 'fast', Av *āsu-* 'fast', OInd *āśú-* 'fast'. Good candidate for PIE status; presumably < **$h_3$ek̂-* 'sharp'.

***h_2r̥ĝ-rós** 'fast (of animals)'. [*IEW* 64 (**r̥ĝ-ro-*)]. Grk *ἀργός* 'fast (of dogs, horses)', OInd *r̥jrá-* 'fast (of horses)'. The underlying meaning here is 'white, shining' and suggests a particular semantic development of a color term (cf. "the horses streaked on by") that might be late Indo-European. Compare also the cognate expressions: Grk *κύνες ἀργοί* 'fast dogs', OInd *r̥jíśvan-* 'having fast dogs'; also OInd *r̥jipyá-* 'rising straight up', Arm *arciw* (< **h_2r̥ĝipi̯ós*) 'eagle'.

?*ētro- 'quick, fast'. [*IEW* 345 (**ētro-*)]. ON *āðr* 'before, earlier', OE *ǣdre* 'quickly, at once', OHG *ātar* 'quick', Lith *otrùs* 'lively', *otu* 'fast', Latv *ātrs* 'fast' (with the Baltic apparently representing **h_2ētro-*), Thrac *Ἀθρυς* (river name, presumably the 'fast, turbulent'). To be excluded on formal grounds is the old suggestion: TochA *atär* 'hero', TochB *etre* 'hero'. Primarily attested in the northwest with a possible Thracian cognate hence not a good candidate for PIE status.

***k̂eigh-** 'fast'. [*IEW* 542–543 (**k̂ei-gh-*)]. OE *hīgian* 'hasten', Rus *sigátĭ* 'spring'; the uncertainty of OInd *śighrá-* 'quick, fast', the only non-northwestern cognate, does not secure this good IE status.

?*h_aeĝi/$h_x$los 'fast'. [*IEW* 5 (**aĝ-*); Buck 14.21]. Lat *agilis* 'quick', OInd *ajirá-* 'agile, quick'. This pair probably reflects parallel dialectal formations from the very productive root **h_aeĝ-* 'drive'. Grk *ἀγέλη* 'herd (of cattle, horses, etc.)' would present another parallel, with considerably different semantic development.

?*bhris- ~ *bhers- 'fast'. [*IEW* 143 (**bheres-*); Wat 8 (**bhers-*)]. MIr *bras* 'forward, defiant, boastful', Wels *brys* 'haste, speed' and Lat *festīnō* 'hurry oneself' are derived from a zero-grade here while the Balto-Slavic forms Lith *burzdùs* ~ *burzgùs* 'fast', OCS *brŭzo* 'fast', Rus *borzój* 'fast' reflect **z* rather than **s*, making their connection more doubtful. Not even secure as a northwest term in late IE.

??*k̂eibh- 'fast'. [*IEW* 542 (**k̂ei-bh-*)]. ON *heipt* 'enmity', OE *hǣst* 'violent, vehement, impetuous', OHG *heiftīg* 'ardor', Goth *haifsts* 'conflict', OInd *śibham* 'fast'. The heritage of the Old Indic form is not entirely clear and modern sources are sceptical about its connection to Germanic, thus highly unlikely as a PIE form.

See also HORSE; SHARP; WHITE. [J.C.S.]

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FASTEN *see* BIND

FAT

***pīh$_x$u̯r̥** 'fat(ness)'. [*IEW* 793 (**pī-u̯-er-*); Wat 47 (**peiə-*)]. Grk *πῖαρ* 'fat, tallow', *πΐων* (fem. *πίειρα*) 'fat, fruitful, rich', OInd *pī́vas-* 'fat', *pī́van-* (fem. *pī́varī-*) 'fat, swollen', *páyate* 'is swollen, overflows'. The exact equation between Greek and Old Indic of an archaic morphology would seem to guarantee PIE status for this word. Possibly also here should be OIr *Ēriu* name of goddess and 'Ireland', MWels *Iwerd* 'Irish Sea, Atlantic', *Iwerδon* 'Ireland' (< Proto-Celtic **Iweri̯ū* < **pih$_x$u̯eri̯oh$_x$n*) where 'fatness' is applied to the land, cf. Grk *Πιερία* name of a district in Thessaly and Homeric *πίειραν ἄρουραν* 'fertile land'; cf. NE 'fat of the land'.

***sélpes-** (or ***sélph$_x$(e)s-**?) 'oil, fat, grease'. [*IEW* 901 (**selp-*); Wat 57 (**selp-*); GI 609 (**selp^h-*); BK 161 (**s^{y}il-/*s^{y}el-*)]. Alb *gjalpë* 'butter', Grk *ἔλπος* 'oil, fat, grease', OInd *sarpíṣ-* 'melted butter', TochA *ṣälyp* 'unguent, fat', TochB *ṣalype* 'unguent, fat'. Cf. OE *sealf* 'grease' (> NE *salve*), OHG *salba* 'grease' (Gmc < **solpo-*); OE *sealfian* 'to grease', OHG *salbōn* 'to grease', Goth *salbōn* 'to grease'. Widespread and old in IE.

***sméru-** 'oil, grease'. [*IEW* 970–971 (**smeru-*); Wat 62 (**(s)mer-*); Buck 5.89; BK 538 (**mar-/*mər-*)]. OIr *smiur* 'marrow', Wels *mêr* 'marrow', ON *smjǫr* 'grease', OE *smeoru* 'grease' (> NE *smear*), OHG *smero* 'grease', TochB *ṣmare* (< **smeru̯o-*) 'oily, greasy'. Unlikely to be connected, for both phonological and semantic grounds, is Grk *σμύρις* 'abrasive for rubbing'. The reflexes of this word are sufficiently widespread geographically to guarantee its PIE status.

***$h_1$opus** '(animal) fat'. Lat *ad-eps* 'suet, lard', *opīmus* (if < **opV-pīmus*) 'fat', Hit *appuzzi* 'animal fat, tallow', TochB *op* '± fatness'. The geographical spread of this word's reflexes strongly suggests PIE status.

See also ANOINT; MEAT; MILK. [D.Q.A.]

FATHER

***ph_atḗr** (gen. ***p$h_a$trós**) 'father'. [*IEW* 829 (**pətḗ(r)*); Wat 51 (**pəter-*); GI 667 (**p^{h}H̥t^{h}er-*); Buck 2.35; Szem 1; Wordick 116–117]. OIr *athair* 'father', OWels *-atr* 'father', Lat *pater* 'father', Osc *patir* 'father', Umb *pater* 'father' (in compounds),

ON *faðir* 'father', OE *fæder* 'father' (> NE *father*), OHG *fater* 'father', Goth *fadar* 'father', Grk *πατήρ* 'father', Arm *hayr* 'father', Av *ptā* 'father' (dat. *fəδrōi*), OInd *pitár-* 'father', TochA *pācar* 'father', TochB *pācer* 'father'. The PIE word for 'father'. Possibly also of PIE date is **pḫ₂tr-ii̯os* 'paternal'. [*IEW* 829 (**pətri̯o-*)]. OIr *aithre* 'paternal', MWels *edryδ* '(paternal) dwelling', Lat *patrius* 'paternal', OE *fædera* 'father's brother', Fris *federia* 'father's brother', OHG *fatureo* 'father's brother' (Gmc < **pḫ₂tri̯o-on-*), Grk *πάτριος* 'paternal', OInd *pítrya-* 'paternal', TochB *patarye* 'paternal'.

somo-pḫ₂tōr 'of the same father'. [*IEW* 829 (**somo-pətōr*)]. ON *samfeðra* 'of the same father', Grk *ὁμοπάτωρ* 'of the same father', OPers *hama-pitar-* 'of the same father', TochA *ṣoma-pācär* 'of the same father'. The distribution of this compound suggests PIE status.

at- (or ***h₂et-*** or ***h₁at-***?) 'father'. [*IEW* 71 (**ătos* ~ **atta*); Wat 4 (**atto-*); Buck 2.35; BK 430 (**at[ʰ](t[ʰ])-/*ət[ʰ](t[ʰ])-*)]. OIr *aite* 'foster-father; tutor, teacher', Lat *atta* 'father', ON *atti* 'father', OHG *atto* 'father', Goth *atta* 'father', OCS *otĭcŭ* 'father', Rus *otéc* 'father', Alb *atë* 'father', Grk *ἄττα* 'father', Hit *attas* 'father'. Although a word derived from the language of children, the distribution suggests PIE status.

t-at- (or ***t-h₄et-***) 'father'. [*IEW* 1056 (**tata-*); Buck 2.35]. Wels *tad* 'father', Lat (inscription) *tata* 'father', Grk *τατᾶ*, *τέττα* 'father', Luv *tātis* 'father', OInd *tata-* 'father'. Perhaps a deformation of the preceding word which again suggests at least the possibility of PIE status.

papa 'father, papa'. [*IEW* 789 (**pap(p)a*); Wat 47 (**papa*)]. Lat *pāpa* 'father', Grk *πάππα* 'papa', Palaic *pāpa* 'father', Scythian *Ζεῦς Παπαιος* 'papa Zeus'. Another child's word which is widely enough distributed to suggest IE antiquity.

ĝenh₁-tōr 'father; procreator'. [*IEW* 374 (**ĝenə-ter-*); Wat 19 (**genə-*); BK 275 (**k'an-/*k'ən-*)]. Lat *genitor* 'procreator', Grk *γενέτωρ* 'procreator', OInd *janitár-* 'procreator'. Possibly, even probably, a word of PIE status but it is also possible that all three words are independent creations in the stocks in which they occur.

A formal term, PIE **pḫ₂tér*, existed beside several informal terms, most notable of which was **h₁at-*. The formal term has been preserved in eight branches, Celtic, Italic, Germanic, Greek, Armenian, Iranian, Indic and Tocharian. If one can accept the loss of the vocalic laryngeal, then there may be some (quite questionable) traces of the word in both Baltic and Slavic. Szemerényi proposes to derive Lith *tévas* 'father' from **ptē* (cf. Av *ptā*) where the laryngeal has been lost and **pt-* > **t-* (and the rest of the word is not well explained). In Slavic we have the divine name *Stri-bogŭ*, taken to be 'father-god'.

Although Antoine Meillet was fond of pointing out that Proto-Indo-European 'father' was not merely the masculine equivalent of 'mother', his chief argument, that 'father' was used as a divine title in Lat *Iūpiter*, Umb *Iuve patre* (dative), Grk *Ζεῦ πάτερ* and OInd *Dyauṣ pitar*, is less convincing in light of titles like Greek *Μήτηρ θεῶν* 'mother of gods' and the Irish gloss *Ana: mater deorum* 'Ana, i.e., mother of the gods'. Nevertheless, the fact that the Latin plural *patrēs* and the Indic dual *pitrấu* signify 'parents' and legal precepts such as Lat *si pater filium ter venum duuit, filius a patre liber* ('if a father sells his son three times, let the son be free from his father') mention only the father indicates that the Indo-European father possessed considerable legal authority within the family.

Beside the formal term for father, PIE **pḫ₂tér*, there were a number of less formal terms. One of these, **at-* or **h₂et-*, may have signified 'foster-father', the meaning found in Old Irish. This word has displaced the formal term in Slavic, Albanian, and Hittite. A variation **t-at-* or **t-h₂et-*, with a peculiar but attested reduplication of the final consonant seen in other childish terms, forms the common term in Welsh, Baltic and most of Anatolian and is a common affectionate term in Albanian and Greek as well. Latin, Greek, Palaic and Scythian also possess a familiar form for 'father'. The need for a term for 'having the same father' in Germanic, Greek, Iranian and Tocharian suggests that the Indo-Europeans employed parent and sibling terms for a wider variety of people than one's own biological parents and the children of one's own parents, that is, they employed a classificatory rather than descriptive kinship terminology.

See also GRANDFATHER; KINSHIP; MASTER. [M.E.H.]

FATHER-IN-LAW

su̯ékuros 'father-in-law, husband's father'. [*IEW* 1043–1044 (**su̯ekrú-*); Gl 662–663 (**s°ekʰuro-*); Buck 2.61; Szem 17–18; Wordick 170–171]. Wels *chwegrwn* 'father-in-law', Corn *whygeran* 'father-in-law', Lat *socer* 'father-in-law', OE *swehor* ~ *swēor* 'father-in-law', OHG *swehur* 'father-in-law', Goth *swaíhra* 'father-in-law, Lith *šẽšuras* 'husband's father', OCS *svekrŭ* 'husband's father', Rus *svëkor* 'husband's father', Alb *vjehërr* (< **u̯éskuro-*) 'father-in-law', Grk *ἑκυρός* 'wife's father', Arm *skesr-ayr* 'husband's father' (lit. 'mother-in-law's man'), Av *xᵛasura-* 'father-in-law', NPers *xusur* 'father-in-law; mother-in-law' (New Persian has generalized the inherited words for both 'father-in-law' and 'mother-in-law' to both sexes), Pashto *sxar* 'father-in-law', OInd *śváśura-* 'father-in-law'. Widespread and clearly old in IE.

Oswald Szemerényi has proposed that **su̯ékuro-* be derived from **su̯e-* and **koru-* 'head', i.e., head of the joint family', arguing that the word was created and employed from the perspective of the wife (otherwise this derivation would make no sense since a man's father-in-law, i.e., the father of his wife, could hardly be a member of his own lineage). To a woman who had married into a man's family, the head of the family would be (presuming he was still alive), her husband's father, i.e., her father-in-law. It would be natural then, according to this line of reasoning, that the woman would refer to her husband's father as the 'head of the family'. In addition to purely linguistic problems concerning both elements of this compound, this theory also rests on the presumption that PIE 'father-in-law' initially (or only) designated

the wife's father-in-law ('husband's father') and that the husband did not possess a corresponding term for his wife's father (with whom he would presumably have contracted the marriage agreement and to whom he would have paid the bride-price).

It is important then to distinguish the point of perspective of the various terms for 'father-in-law'. The semantic contexts of the cognate terms can be divided into two groups. Those words that designate the 'father-in-law' solely from the point of view of the wife are Baltic, Slavic, Greek and Armenian. The other stocks (Celtic, Latin, Germanic, and Albanian) extend it to both the husband and the wife's in-laws. It has often been presumed that the extension of kinship terms to both sides is a later phenomenon but Heinrich Hetterich suggests that there is evidence of the early use of Av *x^v^asura-* (Yašt 10. 116) to designate the 'father-in-law' from the husband's point of view and there is also some circumstantial evidence for this meaning in OInd *śváśura-*. This evidence, he argues, would make it more plausible to reconstruct 'father-in-law' from the perspective of both husband and wife, a situation which would seem to be predicted by the general analysis of other kinship systems (for example, Omaha kinship systems typically do not distinguish the husband's parents-in-law from those of the wife), and renders Szemerényi's interesting attempt at a deeper etymology for this term far less compelling.

?*bhendhr̥ros or ****pentha-r̥ros*** '± relation'. [*IEW* 127 (**bhendh-*); cf. Gl 23 (**bend^h-*); BK 26 (**bin^y-/*ben^y-*)]. Lith *beñdras* 'companion', Grk *πενθερός* 'father-in-law', OInd *bándhu-* 'relative'. Some would also place Arm *aner* 'wife's father' here (Winter suggested loss of expected **b* [for **bh*] by contamination with *hayr* 'father'; the recorded form could then be metathesized from **enar* and derived from **pentha-r̥ro-*, a form that might also account for the Greek etymon). If the relationship between Armenian and Greek is accepted, we could have a second reconstructed form although this would be confined to a limited region. The underlying root of **bhendhr̥ros* is generally taken to be **bhendh-* 'join, tie, connect' and hence we have here some one 'connected (through marriage?)'. The case for anything other than some late regional IE isoglosses is not particularly strong and the specific kinship semantics are limited solely to Greek.

The relation between **su̯éḱuros* 'father-in-law' and **su̯éḱrúhas* 'mother-in-law', is problematic. Most take the masculine to have been remodeled to avoid an unwieldy cluster in the expected **su̯éḱru̯os*. Four stocks—Baltic, Slavic, Greek (?and Armenian)—record a special form for 'wife's father'. The Baltic and Slavic forms, Lith *úošvis* 'father-in-law', OCS *tĭstĭ* 'wife's father' and Rus *testĭ* 'wife's father' are related to corresponding feminines, Lith *úošvė* 'mother-in-law' and Rus *tëšča* 'wife's mother', and do not provide any insight into PIE. The words derived from **bhendhr̥ros* are too general in meaning and the specific kinship semantics of this word appear to be unique to Greek and not indicative of PIE. It might be argued that the fact that several early and conservative languages maintained a distinction between 'husband's father' and 'wife's father' suggests that the distinction may have been original in PIE and its widespread loss was a later development, even if no single form for 'wife's father' can be ascribed to PIE. Alternatively, it may have been the case that PIE had generic terms for 'father-in-law' and 'mother-in-law' and where various stocks made distinctions between the husband's in-laws and the wife's it is because of independent innovations.

See also Brother-in-law; Kinship; Mother-in-law.

[M.E.H.]

Further Readings

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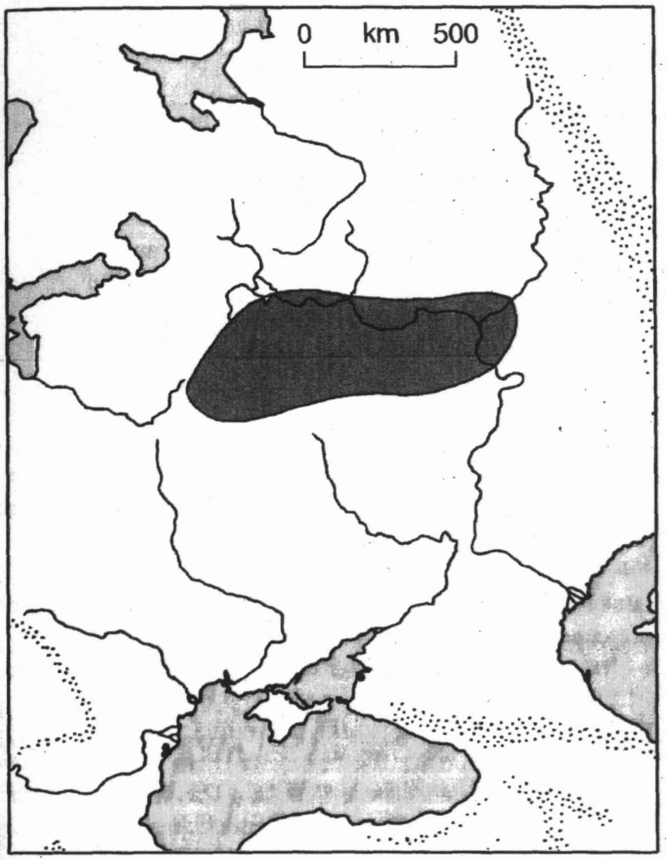
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FATYANOVO-BALANOVO CULTURE

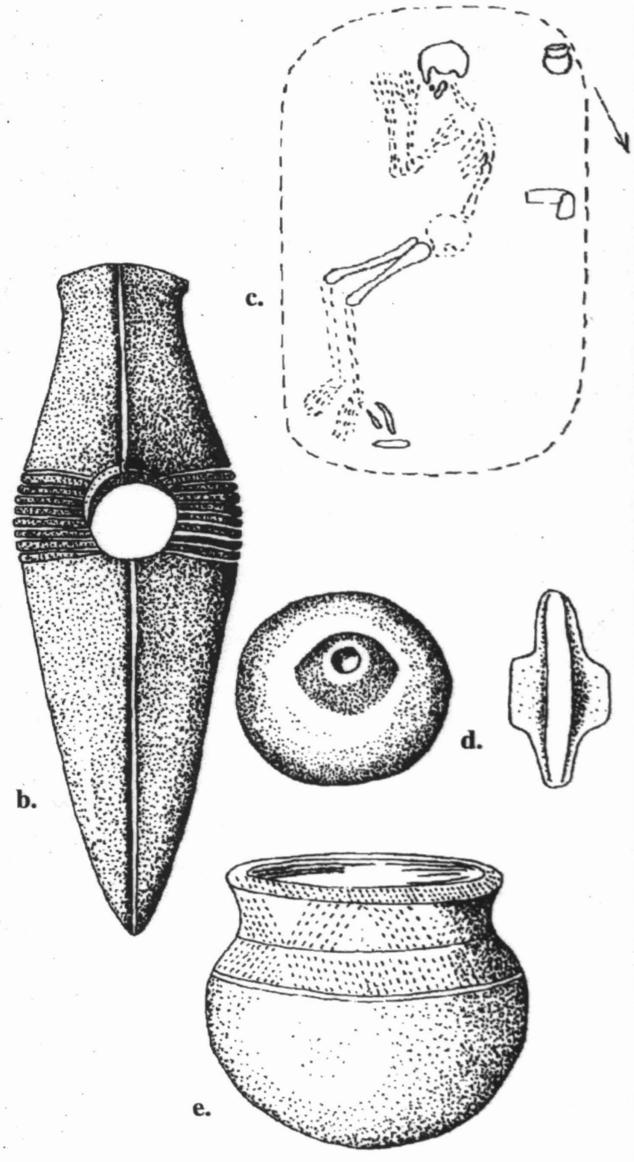
A variant of the Corded Ware horizon (*c* 3200–2300 BC), the Fatyanovo culture is located in the region from Lake Pskov eastwards to the middle Volga, and takes its name from a cemetery in the Yaroslav district. Fatyanovo defines the western part of the culture while in the eastern area of its distribution it is known as the Balanovo culture. Settlements, which are few in number, tend to be located in elevated positions and on Balanovo settlements rectangular semi-subterranean houses are known. Here also there is some evidence for sites defended by earthen banks. The general absence of settlement remains throughout most of the culture, as with other variants of the Corded Ware horizon, is usually interpreted as reflecting an essentially mobile economy. The Fatyanovo culture is seen to introduce an economy based on domestic livestock into the forest zone of Russia and the degree of mobility that one may ascribe to it is seriously mitigated by the fact that the main domestic fauna tends to be (the non-mobile) pig, which is then followed by sheep, cattle, horse and dog; there are also the remains of wild species.

Primary information regarding Fatyanovo derives from over three-hundred cemeteries attributed to the culture, the largest being on the order of over a hundred burials. Graves were shafts, sometimes over 2 m deep, and the walls might be lined with wood and the floor covered with birch bark. The usual pattern of Corded Ware ritual is reflected with males deposited on their right sides (heads to SW) and females on their left (heads to NE). Grave-goods included pottery, ornaments of animal teeth, polished stone battle-axes (for males) and occasionally stone mace-heads. Metal resources from the western Urals were exploited and it is from this region that one finds simple metal tools and ornaments although they are manufactured according to types known in central Europe. That the culture produced its own metal objects is attested to by the finding of metal-working implements in graves suggesting the presence of local smiths.

Unlike many of the other variants of the Corded Ware



Fatyanovo a. Distribution of the Fatyanovo culture.



Fatyanovo b. Stone "battle-ax"; c. Male burial on right side; d. Clay "wheel"; e. Cord-decorated vessel.

horizon, the Fatyanovo culture is found beyond the borders of the earlier TRB culture and has been regarded as a genuine folk movement into the forest region of Russia, variously derived from the Baltic, central Europe or, less likely, the Russian-Ukrainian steppe (there are similarities between Fatyanovo and Catacomb culture stone battle-axes). The case for an intrusive culture is based on the physical type of the population, flexed burial under barrows, the presence of battle-axes and ceramics. On the other hand, it has also been argued that the culture represents the acculturation of the local Pit-Comb Ware inhabitants of this region through contacts with Corded Ware agriculturalists to the west. If one assumes that the Corded Ware horizon does reflect an earlier IE linguistic identity (which is frequently accepted), it is unlikely to have persisted as later during the early historic period this territory appears to have been occupied by Uralic-speaking peoples before the still more recent expansion of the Balts and Slavs.

See also CORDED WARE CULTURE; PIT-COMB WARE CULTURE.

[J.P.M.]

Further Readings

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FAVOR

$h_a$eu- 'favor'. [*IEW* 77 (**au̯-*)]. OIr *con-ōi* 'guards', Wels *ewyllys* 'desire', Lat *aveō* 'desire strongly', Runic *auja* 'good fortune', Goth *awi-liuþ* 'thanks', Grk (Doric) *ἀίτας* 'friend, beloved', perhaps Arm *aviwm* 'inspiration', Av *avaiti* 'cares for, helps', OInd *ávati* 'is pleased, promotes', *ávi-* 'favorable', *ávas-* 'enjoyment, favor, help'. Widespread and of PIE status. Perhaps **$h_a$eu-* is actually **$h_4$eu-* and ultimately the same as **$h_4$eu-* 'eat'.

$h_1$erh$_a$s- 'be well-disposed to someone'. Grk *ἔραμαι* ~ *ἐράω* 'love', TochAB *yärs-* 'be deferential, respectful'. The apparent agreement of Greek and Tocharian would seem to be good evidence for at least late PIE status for this word.

***teu-** 'look on with favor'. [*IEW* 1079–1080 (**teu-*); Wat 71 (**teu-*)]. OIr *tūath* 'north, left (when facing east)' (< probably a euphemistically used 'favorable'), Lat *tueor* 'observe, protect', *tūtus* 'secure', ON *þȳðr* 'friendly', OE *ge-þiеðe* 'good, virtuous', *þēaw* 'custom, usage', OHG *gi-thiuto* 'publicly, truly', *thau* 'custom, usage', Goth *þiuþ* 'good', Luv *tāwa/i-* 'eye' (< *'looker, observer'). Attested on the western and southern peripheries of the IE world which suggests PIE status.

?*$h_4$ens- 'be gracious to, show favor'. [*IEW* 47 (**ans-*); GI 683 (**wesu-*); Puhvel 1, 205–206; BK 386 (**ħan-/*ħən-*)]. ON *āst* 'affection, love', OE *ēst* 'favor, grace, bravery', OHG *anst* 'favor', Goth *ansts* 'favor, grace' (Gmc < **$h_4$ensti-*), probably Grk *προσηνής* (Doric *προσᾱνής*) 'gentle, kind, soft'. Hit *āssu-* 'good', *ass-* ~ *assiya-* 'be favored, be dear, be good' have also been put here or, alternatively, derived from **$h_1$esu-* 'good'. If the Hittite words belong here, and it is likely that at least the verb does (though influenced semantically by the phonologically similar word for 'good'), then we have evidence for the shape **$h_4$ens-* and for PIE status. However, certainty here cannot be achieved.

?*$h_1$su-menes-i̯e/o- 'be well disposed to'. [GI 683; Del 286]. Grk *εὐμενέω* 'am gracious', OInd *sumanasyáte* 'is favorable'. Possibly a late dialectal term in IE, but also possibly independent creations in Greek and Old Indic.

See also PLEASE. [D.Q.A]

FEAR

***bhibhóih$_x$e** 'is afraid'. [*IEW* 161–162 (**bhōi-*); Buck 16.53]. ON *bifa* 'tremble', OE *beofian* ~ *bifian* 'tremble', OHG *bibēn* ~ *bebēn* 'tremble', OInd *bibhā́ya* ~ *bibhéti* 'is afraid'. Though attested only on the extreme peripheries of the IE world, the exact equation of form (the Germanic verbs, like OInd *bibhéti*, reflect the secondary addition of the productive present endings onto an old perfect) and meaning assure its PIE status. Other presents appear in OPrus *biātwei* 'to fear', Lith *bijaũs* 'is afraid', Latv *bijuôs* 'is afraid' (Baltic < **bhih$_x$-eh$_a$-*), OCS *bojati sę* (< **bhoih$_x$-eh$_a$-*) 'is afraid', OInd *bháyate* 'is afraid'. Cf. also Lat *foedus* (< **bhoih$_x$-do-*) 'ugly, repulsive'.

***h$_a$egh-** 'be afraid, be downcast'. [*IEW* 7–8 (**agh-*); Buck 16.53; BK 302 (**ħag^y-/*ħəg^y-*)]. OIr *ad-āgathar* 'fears', ON *agi* 'terror', *ōgn* 'fright', OE *ege* 'sorrow', *ōga* 'fright', OHG *akī* ~ *egī* 'terror', *egisōn* 'shock, terrify', Goth *ōg* 'is afraid', *agis* 'fear, anxiety, terror', *un-agands* 'unafraid', *af-agjan* 'be moved, frightened', Grk *ἄχος* 'mental pain or distress', *ἄχομαι* 'am troubled, mourn'. At least a word of the west and center of the IE world.

***du̯ei-** 'fear'. [*IEW* 227–228 (**du̯ei-*); Wat 15 (**dwei-*); Buck 16.53]. Grk *δείδω* (< perfect **dedwoia*) 'fear', Arm *erknčʻim* 'frighten', perhaps Luv *kuwaya-* 'fear', Av *dvaēš-* 'be hostile, provoke', OInd *dvéṣṭi* 'hates, is hostile', TochAB *wi-* 'be frightened'. A verb derived from **du̯i-* 'two' and thus originally 'be of two minds, doubtful' or the like. Certainly if the Luvian word belongs here (and not to **k^{w}eh$_1$(i)-* 'fear') we have strong evidence for PIE status.

***neh$_2$-** 'be timid'. [*IEW* 754 (**nā-*); GI 705 (**naH-*); BK 563 (**naħ-/*nəħ-*)]. MIr *nār* (< **neh$_2$-sro-*) 'modest, diffident', *nāire* 'shame, modesty', Hit *nāh-* 'fear, be afraid', *nahsar-* 'fear, terror', *nahsariya-* 'fear'. Attested only in two stocks but the geographical distribution would seem to support PIE status.

***k^{w}eh$_1$(i)-** 'fear, revere'. [*IEW* 636–637 (**k^{u}ei-*); Wat 33 (**kweiə-*)]. OCS *čajǫ* '(a)wait, hope', *kajǫ* 'feel remorse', Grk *τίω* 'honor, revere (of the bearing of men before gods)', perhaps Luv *k(u)waya-* 'fear', OInd *cā́yati* 'reveres, pays attention to'. Particularly if the Cuneiform Luvian word belongs here (and not to **du̯ei-*) the geographical extension would appear to assure PIE status for this word.

***perk-** 'fear'. [*IEW* 820 (**perg-*); Buck 16.53; BK 68 (**p[^{h}]ir-/*p[^{h}]er-*)]. OE *forht* 'fearful, afraid', *fyrhto* 'fright' (> NE *fright*), *fyrhtan* 'frighten' (> NE *to fright*), OHG *for(a)ht* 'fearful, afraid', *forhta* 'fright', *for(a)htan* 'fear', Goth *faúrhts* 'fearful, afraid', *faúrhtjan* 'be afraid', TochAB *pärsk-* (< **pr̥k-sk̑e/o-*) 'be afraid', TochA *praski* 'fear', TochB *proskye* 'fear'. Limited to Germanic and Tocharian but at least dialectally present in late PIE.

***tres-** 'tremble, fear'. [*IEW* 1095 (**tres-*); Wat 72 (**tres-*); GI 207 (**t^{h}ers-* ~ **t^{h}res-*); Buck 16.53; BK 97 (**t[^{h}]ir-/*t[^{h}]er-*)]. MIr *tarrach* (< **tr̥sāko-*) 'fearful', Lat *terrēre* 'terrify', *terror* 'terror', Lith *trišù* (if < **tr̥s-sk̑e/o-*) 'tremble', Grk *τρέω* 'tremble, flee', Av *tərəsaiti* (< **tr̥s-sk̑e/o-*) 'fears', *θranhayeiti* 'frightens', OInd *trásati* 'trembles, is afraid'. Here we have a metaphorical transfer from an outward sign of fear to fear itself, probably of PIE date.

See also FRIGHTEN; SHAKE. [D.Q.A.]

FEATHER *see* WING

FEED

***peh$_2$-** 'guard, protect, cause to graze' (pres. ***péh$_2$ti** ~ ***peh$_2$s(k̑)eti**). [cf. *IEW* 787 (**pā-*), 839 (**pō(i)-*); Wat 46 (**pā-*); GI 600 (**p^{h}aH-/*p^{h}oH(i)-*); Buck 3.16; BK 52 (**p[^{h}]aħ-/*p[^{h}]əħ-*)]. OIr *aīnches* 'bread basket', Wels *pawr* 'meadow', Lat *pāscō* 'feed, lead to pasture; nourish', ON *fōðr* 'fodder', OE *fōddor* ~ *fōðor* 'fodder' (> NE *fodder*), OHG *fuoter* 'fodder', OCS *pasǫ* 'protect, guard', Grk (Doric) *πᾱνίᾱ* 'satiety', Arm *hawran* 'herd', Hit *pah(has)s-* 'protect', Av *pāiti* 'guards', OInd *pā́ti* 'guards', TochA *pās-* 'guard, protect, practice moral behavior', TochB *pāsk-* 'guard, protect, practice moral behavior'. Cf. Grk *πῶυ* (< **póh$_2$i̯u*) 'flock of sheep', OInd *pāyú* (< **poh$_2$i̯ú-*) 'protector', and Grk *ποιμήν* 'guardian, herder', Lith *piemuõ* (< **poh$_2$imén-*) 'herder'. This word is widespread and old in IE. It was the usual word to describe the herdsman's activities.

***u̯es-** 'graze'. [*IEW* 1171 (**u̯es-*); cf. GI 601 (**wes-*)]. OIr *feis(s)* ~ *fess* 'food', Wels *gwest* 'feast', ON *vist* 'food', OE *wist* 'food', *wesan* 'feast, cause to graze', *wesa* 'reveler', OHG *wist* 'food', Goth *waila wisan* 'feast', *wizōn* 'be self-indulgent', Latv *vęsęls* 'healthy, whole', OCS *veselŭ* 'joyful', Hit *wesi-* 'pasture', *westara-* 'herdsman', *wesiya-* 'graze', Av *vāstra-* 'food', *vāstar-* 'herdsman' (the *-ā-* is secondary in Avestan, introduced to

distinguish *vas-* 'graze' from *vas-* 'wear'), TochA *wäsri* 'grassy area, pasture'. Widespread and old in IE. This word would seem to be the intransitive equivalent of *peh$_2$- above.

***pen-** 'feed, fatten'. [*IEW* 807 (**pen-*); BK 58 (**p[^{h}]in^y-/*p[^{h}]en^y-*)]. Lat *penus* 'store of food', Goth *fenea* (= /*finja*/) 'a barley dish', Lith *penù* 'fatten', *pẽnas* 'fodder', Palaic *bānnu* 'liver' (< **pén-nu-* 'the fattened one'). Clearly old in IE.

See also Eat and Drink; Food; Grass; Plants. [D.Q.A]

FELT *see* TEXTILE PREPARTATION

FENCE

ghórdhos** (ghórtos** ~ ***ghórdhos**) 'fence, hedge; enclosure, pen, fold'. [*IEW* 444 (**ĝherdh-*); Wat 22 (**gher-*); GI 647 (**g^{h}erd^h-*); Buck 19.15; BK 303 (**g^{y}ir-/*g^{y}er-*)]. From **ghórtos*: OIr *gort* 'standing crop', Wels *garth* 'pen, fold', Lat *hortus* 'garden', *cohors* (< **ko-ghr̥t-i-s*) (gen. *cohortis*) 'enclosure, yard, cattle-pen' (via French > NE *court*), Osc *húrtúm* 'enclosure', Grk *χόρτος* 'enclosed place, feeding place'; from **ghórdhos*: ON *garðar* (pl.) 'fence, hedge, court', OE *geard* 'enclosure, yard' (> NE *yard*; ON/OE < **ghordho-*), *ortgeard* 'garden' (lit. 'fruit-yard'; > NE *orchard*), OHG *garto* 'garden' (via Old French > NE *garden*), Goth *gards* 'house, household; court' (< **ghordhi-*), *garda* 'household', Lith *gar̃das* 'fence, fold, pen', OCS *gradŭ* 'town, city', Rus *górod* 'town, city', Alb *gardh* 'fence, enclosure, hedge', Phryg *-gordum* 'city' (cf. *Górdion* 'Gordium'); with zero-grade **ghr̥dhó-*: Hit *gurtas* 'citadel', Luv *gurta-* 'citadel', Av *gərəδa-* 'cave housing demons', OInd *gr̥há-* (< **gr̥dhá-*) 'house, habitation, home'. The ensemble of forms assembled under **ghórdhos* suggests an earlier root-noun, **ghórdhs* (or **ghórdhs?*), gen **ghr̥dhós*. The word-final **-dhs* would have been pronounced **-ts* and it is this pronunciation that may have led to the creation of the variant **ghórtos*. Certainly belonging here as well is TochB (pl.) *kercīyi* 'palace' (< **ghort/dhii̯oi* 'courts', cf. *Gordium*). Widespread and old in IE.

The original meaning of **ghórdhos* would appear to have included both the hedge or (wickerwork?) fence that enclosed an individual yard or a whole settlement and the enclosure (garden or corral) thus defined. The term is also used with specific references to the walls surrounding the PIE otherworld, e.g., ON *garðar* surrounds the realm of the goddess of death, Hel, Av *gərəδa-* is used with explicit reference to the cave of demons contaminated by death and corruption, and OInd *mr̥nmáyam gr̥hám* (acc. sg.) 'house of clay', i.e., where one goes after death. From **gherdh-* 'gird' which, as a verb, exists only in Germanic (cf. NE *gird*). A number of IE stocks show semantically similar forms as if from a palatalized PIE **ĝherdh-*: OPrus *sardis* 'fence', Lith *žar̃dis* 'corral', *žárdas* 'drying rack (for grain); fence, enclosure', Rus *zoród* 'granary', Phryg *-zordum* 'city'. As living areas were fenced in, it is not surprising to find the semantic shifts to 'house' or even to 'city', e.g., NE *town* is cognate with NHG *zaun* 'fence, hedge'. The term was borrowed into Finno-Ugric, e.g., Udmurt *gurt* 'village, settlement', Komi *gort* 'house'.

***u̯orPo-** 'enclosure'. Hit (pl.) *warpa* 'enclosures', *warpa dāi-* 'encircle', HierLuv *warpi* 'temple precinct' (< *'enclosure'), TochA *warp* 'enclosure', TochB *werpiye* 'garden', *werpiṣke* 'garden'. Both Hittite and Tocharian show identical denominative verb formations (**u̯orP-eh$_2$-*): Hit (*anda*) *warpāi-* 'enclosure', TochAB *wārpā-* 'surround, encircle'. The double morphological agreement of Anatolian and Tocharian would seem to guarantee this word PIE status.

***kagh-** 'hedge, enclosure'. [*IEW* 518 (**kagh-*); Wat 26 (**kagh-*)]. Wels *cae* 'hedge', perhaps Lat (pl.) *caul(l)ae* 'enclosure for sheep' (if < **kaghleh$_a$-*), ON *hagi* 'wheatfield', OE *haga* 'hedge' (> NE *haw* as in *haw-thorn*), *hecg* (< **kaghi̯o-*) 'hedge' (> NE *hedge*), OHG *hag* 'hedge'. Restricted to the northwest of the IE world. From **kagh-* 'catch, seize'.

***mand-** 'enclosure, stall'. [*IEW* 699 (**mand-*)]. Thrac *μανδάκις* 'ring of sheaves', Grk *μάνδρα* 'cattle-fold, byre; horse-stall', OInd *mandurā́* 'horse-stable', *mandirá-* 'habitation, dwelling; palace, temple; town'. Possibly late IE and restricted to the south and east of the IE world; these words have also, less plausibly, been taken to be borrowings from some unknown (Near Eastern?) language.

?*u̯r̥to/eh$_a$- ~ ***u̯r̥tis** ~ ***u̯orto/eh$_a$-** 'enclosure'. [*IEW* 1161–1162 (**u̯r̥-ti-*); cf. Wat 77 (**wer-*); BK 489 (**wur^y-/*wor^y-*)]. From **u̯r̥to/eh$_a$-*: OE *worþ* 'court, courtyard; farm; street', NLG *wurt* 'elevated settlement', TochA *wärt* 'forest', TochB *warto* 'forest' (Tocharian < *'what encloses or surrounds a settlement'? or < *'sacred grove' < *'(sacred) precinct'?); from **u̯r̥ti-*: OInd *vr̥ti-* 'enclosure'; from **u̯orto/eh$_a$-*: OPrus *warto* 'door, gate', Lith (pl.) *var̃tai* 'gate, gateway', OCS *rata* 'gate'. It is likely that these all represent independent derivatives of **u̯er-* 'enclose, cover, protect'.

See also Fort; Gird, High; House; Wall. [A.D.V.; D.Q.A.]

Further Readings

Della Volpe, A. (1988) Hillfort nomenclature in Indo-European: The case of Latin *urbs*. *JIES* 16, 194–206.

FERMENT

***bhreu-** 'brew'. [cf. *IEW* 144–145 (**bh(e)reu-*); Wat 9 (**bhreu-*); GI 553 (**b^{h}reu-*); BK 4 (**bar-/*bər-*)]. The underlying verb is attested with the meaning 'brew' only in Germanic: OE *brēowan* 'brew' (> NE *brew*), OHG *briuwan* 'brew'. A derivative **bhrutom* 'beer' (< 'what has been brewed') appears more widely: Lat *dēfrutum* 'boiled must', ON *broð* 'broth', OE *broþ* 'broth' (> NE *broth*), OHG *brod* 'broth', Alb *bërsi* (< **bhruti̯eh$_2$-*) 'lees, dregs; mash', Thrac *βροῦτος* a kind of beer. Cf. also ON *brauð* 'bread', OE *brēad* 'crumb; bread' (> NE *bread*), OHG *brōt* 'bread' (named after the leavening agent); and ON *Bragi* god of poetry. These words suggest that the meaning 'brew' was widespread in at least the west and center of the IE world. The use of **bhreu-* is a specialization of the **bhreu-* that means 'boil, seethe'.

***ku̯at-** 'ferment'. [*IEW* 627 (**ku̯at(h)-*); GI 28]. Lat *cāseus* 'cheese', Goth *hvaþō* 'foam', *hvaþjan* 'foam up', Latv *kûsât* 'boil', OCS *kvasŭ* (< **kvāt-so-*) 'leaven; sour drink', *kyselŭ*

'sour', OInd *kváthati* 'boils, cooks'. Another word which originally meant 'boil' that was specialized for some kind of fermentation process in several IE stocks of the west and center.

While fermentation may appear as a natural process that might have been discovered quite early, at least during the Neolithic period, Andrew Sherratt has suggested that this would presume the unlikely existence of sufficient sources of sugar to initiate the process. The sugars which one might expect to be found among Neolithic populations and their corresponding fermented drinks would comprise glucose from honey which would yield mead, fructose from fruits to produce wine, maltose from sprouted grain to yield beer and lactose from milk which could make kumiss. Of these, Sherratt suspects that mead was the earliest alcoholic drink produced in Europe since honey at least contained sufficient sugars and it has been circumstantially recovered in the form of presumably honey-associated pollen in a vessel of a Beaker burial *c* 2000 BC. Sherratt argues that the fruits of the Neolithic, including the wild vine, would have had insufficient sugar to have initiated fermentation (this assumption, however, this been contradicted by the recent discovery of the residue of wine from a Neolithic site in Iran dating to *c* 5400–5000 BC). An alternative method of fermentation, not requiring the boiling of a mash, involves the chewing of grain, for example, whereby fermentation is aided by pyalin, an enzyme in saliva. This technique is known in various parts of the world, e.g., Polynesia to make *kaya* beer and is also recorded in Finland. The lexical evidence, however, does not suggest this particular semantic scope for any of the words for fermentation.

The appearance of alcoholic beverages in Europe are usually dated to *c* 3500–3000 BC with the appearance of distinctive sets of drinking vessels in the Ezero, Baden, Corded Ware and Beaker cultures which have been tentatively associated with the consumption of mead.

See also BEER; BOIL; COOK; HONEY; JUICE; POT; SACRED DRINK; WINE. [D.Q.A., J.P.M.]

Further Readings

McGovern, P. E. *et al.* (1996) Neolithic resinated wine. *Nature* 381, 480-481.

Sherratt, A. (1987) Cups that cheered, in *Bell Beakers of the Western Mediterranean*, eds. W. Waldren, R. Kennard, Oxford, BAR International Ser, 81–106.

FEW

pau- 'little, few'. [*IEW* 842 (**pōu-*); Wat 47 (**pau-*)]. From **pau̯os*: Lat *pauper* 'poor' (< **pau-paro-* 'acquiring little'), ON *fār* 'little; taciturn', OE *fēa* ~ *fēawe* ~ *fēawa* 'little, few' (> NE *few*), OHG *fō* 'little, few', Goth (pl.) *fawai* 'few'; from **paukos*: Lat *paucus* 'little', OHG *fōh* 'few'; from **pauros*: Lat *parvus* 'small', Grk *παῦρος* 'little'. At least a word of the west and center of the IE world.

[D.Q.A.]

FIELD

$h_a$érh$_3$u̯r̥ ~ ****$h_a$érh$_3$u̯os*** 'field'. [*IEW* 63 (**ar(ə)u̯-*); cf. Wat 3 (**arə-*); GI 594; Buck 8.12]. OIr *arbor* (*DIL arbar*) 'grain', Wels *erw* 'field', Lat *arvus* 'plowed', *arvum* 'plowed field', Myc *a-ro-u-ra* 'field, arable land', Grk *ἄρουρα* 'field', Arm *haravunk'* 'field'. Av *urvarā-* 'plant', OInd *urvárā-* 'fertile soil, field yielding crop' are often, probably rightly, included within this group. They reflect a Proto-Indo-Iranian **urvárā-* whose phonological development, whether from **h_ar̥h$_3$u̯éreh$_a$-* or **$h_a$erh$_3$u̯éreh$_a$-*, is somewhat irregular. From **$h_a$erh$_3$-* 'plow', thus originally 'plowed field'. At the very least late PIE in date in the west and center of the IE world.

****h_aeĝros*** 'field, pasture'. [*IEW* 6 (**aĝ-ro-s*); Wat 1 (**agro-*); GI 600 (**Hak̂'ro-*); Buck 8.12; BK 396 (**ħak'-/*ħək'-*)]. Lat *ager* 'field', ON *akr* 'field', OE *æcer* 'field' (> NE *acre*), OHG *ackar* 'field', Goth *akrs* 'field', Grk *ἀγρός* 'field', Arm *art* 'field', OInd *ájra-* 'plain'. Widespread and old in IE. A derivative of **h_2eĝ-* 'drive (cattle)' and thus originally 'pasture'.

****lendh-*** ~ ****londh-*** 'open land, waste'. [*IEW* 675 (**lendh-*); BK 586 (**lamd-/*ləmd-*)]. OIr *lann* 'open land', MWels *llan* 'area', ON *land* 'land', OE *land* 'land' (> NE *land*), OHG *lant* 'land', Goth *land* 'land', OPrus *lindan* 'valley', OCS *ljadina* 'weeds, shrubs', Rus *ljadá* 'overgrown field'. Cf. ON *lundr* 'grove', Swed *linda* 'fallow land'. A late word in IE, found in the west and center.

****polk̂éh$_a$-*** '± fallow land'. [*IEW* 807 (**polk̂ā*)]. Gaul *olca* 'fallow land', OE *fealh* 'fallow land' (> NE *fallow*), MLG *falge* 'fallow land', OCS *plasa* 'strip of arable land', Rus *polosá* 'strip of arable land'. A technical agricultural term found in the northwest of the IE world.

****k̂āpos*** ~ ***k̂āpéh$_a$-*** (or ****k̂eh$_a$pos*** ~ ****k̂eh$_a$péh$_a$-***?) 'piece of land, garden'. [*IEW* 529 (**kāp-*); Buck 8.13; Bailey 355]. OHG *huoba* 'piece of land', Grk *κῆπος*, (Doric *κᾶπος*) 'garden', Pashto *sābah* 'grass, vegetables' (< *'that [produced] of a garden'), Roshani *sēpc* 'cultivated field', Shughni *sā̊pc* 'cultivated field' (< Proto-Iranian **sāpačī-*). Alb *kopsht* 'garden' presumably represents an early borrowing from Greek; an inherited **k̂āpos* should have given Alb **thop-*. Widespread and old in IE.

****póh$_x$iu̯eh$_a$-*** 'open meadow'. [*IEW* 793 (**poiu̯ā*); BK 52 (**p[^{h}]aħ-/*p[^{h}]əħ-*)]. Lith *pieva* 'meadow', Grk *πόᾱ* 'grass; grassy place'. At least a late PIE word in the central part of the IE world. Perhaps related to **peh$_2$-* 'nourish, herd, cause to graze'.

?*u̯élsu- 'meadow, pasture'. [*IEW* 1139–1140 (**u̯el-*); GI 723 (**wel-*); BK 612 (**wal^y-/*wəl^y-*)]. ORus *Volosŭ* a pagan god, probably the protector of cattle (and thus possibly the personified pasture), Grk *ἠλύσιος* 'Elysian' (if < **u̯elsu-tio-*), Hit *wēllu-* 'meadow'. All of these *may* reflect a PIE **u̯élsu-* (in each case there are other possible, and mutually incompatible, phonological antecedents). If so, we have good evidence for an ancient PIE word for 'meadow, pasture'. ON *vǫllr* 'meadow, uncultivated land' has also been put here but phonologically it reflects the same Proto-Gmc **walþu-* 'forest, uncultivated

waste' seen in OHG *wald* 'forest' and OE *weald* 'forest' (> NE *weald* and *wold*, both of which refer to non-forested terrain). J. Puhvel has suggested that the **u̯el-* of **u̯élsu-* is basically the same as **u̯el-* 'die' and that we have, then, etymological evidence for the existence of the concept 'meadow of the otherworld' or the like in PIE. Such a conclusion seems most speculative and the two words are probably best kept apart.

The words for 'field', particularly **h₂eĝros*, have long been cited to illustrate the economic dichotomy between the European and the Asian or eastern IE stocks where the former shows consistently a series of cognates for agriculture, including 'cultivated field' while the latter either lacks any cognate or, as is the case with **h₂eĝros*, shares the form but does not denote a field employed in agriculture. However, the recognition that a PIE word for 'garden', **k̂āpos ~ k̂āpéh₂-*, survives in Iranian greatly reduces the apparent dichotomy between the European and Asian branches of IE.

See also AGRICULTURE; DEATH BELIEFS; DRIVE; GRASS; PLOW. [D.Q.A.]

Further Reading

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FIGHT

h₂eĝ- 'fight' < *'combative activity'. [*IEW* 4 (**aĝ-*); Wat 1 (**ag-*); Buck 20.12]. MIr *āg* (< **āgu-*) 'fight; warrior's ardor', Av *āzi-* 'avidity, greed' (*pəšanā az-* 'engage in a contest'), NPers *āz* 'avidity, greed', OInd *ājí-* 'race, fight', (*ājím aj-* 'put on a contest', *pṛ́tanāj-* 'engage in a contest'), TochB *āk* 'zeal'. Independently derived but ultimately the same meaning is Grk ἀγών 'fight, contest'. The Greek word originally meant 'assembly, gathering', e.g., Homeric (*Iliad* 7.298) ἀγώνιοι θεοί 'assembled (statues of the city's) deities'. It became specialized into gathering for games, hence 'competition, fight'. From **h₂éĝ-* 'drive, push' where its original sense may have been 'activity' or 'drive' (in the NE sense) which then became specialized to 'combative activity'.

i̯udh- 'moved, stirred up; fight'. [*IEW* 511 (**i̯eu-dh-*); Wat 79 (**yeudh-*); Buck 20.11, 20.12]. OWels *Jud-* 'fight' (in personal names), Lat *iubeō* 'order, command', Lith *judù* 'move, stir', Pol *judzić* 'incite', Grk ὑσμίνη 'battle', Av *yūiδyeiti* 'fights', OInd *yúdhyati* 'fights', TochA *yutk-* 'be anxious'. Distribution indicates PIE status.

katu- 'fight'. [*IEW* 534 (**k̂at-*); Wat 27 (**katu-*); Buck 19.52, 20.12]. OIr *cath* 'battle', Wels *cad* 'battle', ON *hǫð* 'fight', OE *heaðu-* 'fight', OHG *hadu-* 'fight', OCS *kotora* 'fight', Rus *kotorá* 'strife, fight'. The Slavic *k-* (?borrowed from a centum language) is, of course, not compatible with OInd *śátru-* 'enemy', which is sometimes placed here and whose meaning is not so obviously connected. This word appears to be a northwestern term in IE and is widely represented in personal names in Celtic, e.g., Gaul *Catu-rīx* 'battle-king', and Germanic, e.g., *Hadu-rīh* 'battle-king' (cf. also ON [Runic] *HaðulaikaR*, OE *Heaðulāc*, OHG *Hadubrant*). Attempts to relate this word to Goth *hēþjo* 'chamber', Av *kata* 'house', i.e., a fenced-off area in which one fought a duel, are hardly plausible.

u̯eik- 'fight'. [*IEW* 1128–1129 (**u̯eik-*); Wat 75 (**weik-*); GI 369; Buck 20.11]. OIr *fichid* 'fights', *ficht* 'military expedition', OWels *guith* 'anger' (these two Celtic < **u̯ikteh₂-*), Lat *vincō* 'defeat', Osc *vincter* 'is convicted', ON *vega* 'fight', *vīg* 'strife, war, battle', OE *gewegan* 'fight', *wīgan* 'fight', *wīg* 'strife, war, battle', *wīgend* 'warrior', OHG *wīhan* ~ *wīgan* 'fight', *wīg* ~ *wīc* 'strife, war, battle', *wīgant* 'warrior', Goth *weihan* 'fight', Lith *apveikiù* 'defeat', Latv *vèikt* 'make straight', OCS *věkŭ* 'force', Rus *vek* 'force'. It has been suggested that this word is associated with the root **u̯eik-* 'separate' > **u̯oiko/eh₂-* 'life force' (ON *veig* 'strength', Lith *viẽkas* 'life force') with its sacral connotations as the terms for combat might allegedly have since the gods determine the issue of the fight, e.g., ON *vāpnadōmr* 'judgement by arms' > 'fight'. On the other hand, **u̯eik-* 'separate (from the profane)' > 'consecrate' may be a more logical development and hence the two roots should probably be kept distinct. The distribution suggests a northwestern term in IE.

nant- (noun) 'combat, fight'. [*IEW* 755 (**nant-*)]. OIr *néit* (< **nanti-*) 'battle, combat', ON *nenna* 'to strive', Goth *ananan̄þjan* 'to take courage'. The Germanic forms appear to be denominatives. Tocharian forms, i.e., TochA *nati* 'might, strength' and TochB *nete* 'might, strength' are sometimes attributed to this root but as the second PIE **-n-* should not have disappeared, they should be excluded. The distribution of the forms suggests a late northwestern dialectal status.

See also ARMY; CONTEND; DRIVE; WARFARE; WARRIORS. [E.C.P.]

FILL

pelh₁- 'fill'. [*IEW* 798–800 (**pel-*); Wat 48 (**pelə-*); cf. GI 190 (**pʰipʰ(o)lH-*); Buck 13.21; BK 54 (**p[ʰ]al-/*p[ʰ]əl-*)]. OIr *līnaid* 'fills', Lat *pleō* 'fill', Grk πίμπλημι 'fill', Arm *helum* 'pour', Av *par-* 'fill', OInd *píparti* 'fills'. Both Greek and Old Indic show a reduplicated present; the Old Irish form may be a nasal-infix present or be based on an adjective, e.g., Lat *plēnus* 'full'. Distribution indicates PIE status.

See also ABUNDANT; DRAW (WATER); POUR; SATISFY. [M.N.]

FINCH

(s)pingos 'finch, especially the chaffinch'. [*IEW* 999 (**(s)pingo-*); Wat 64 (**sping-*); GI 459–460 (**(s)pink'o-*)]. OE *finc* 'finch' (> NE *finch*), OHG *fincho* 'finch', Grk σπίγγος 'finch', perhaps OInd *phiṅgaka-* 'shrike'. The Germanic and Greek terms refer precisely to the 'chaffinch (*Fringilla caelebs*)'. Arm *sarekik* 'finch' derives from the polyvalent **k̂Vr-* root. A common Old Indic term for 'finch' *kukinga-* has no relation to any other bird name, and Lat *fringilla* is suspiciously close to the Germanic and Greek forms and suggests onomatopoeia.

Finches form a greatly varied family of variegated birds, and there is little doubt that terms for finch were used indiscriminately for any such small and brightly colored bird.

See also BIRDS. [J.A.C.G.]

FIND

u̯er- 'find, take'. [*IEW* 1160 (**u̯er-*); Wat 77 (**werə-*); Buck 11.32]. OIr *-fūar* (*DIL frīth*) (< **u̯e-u̯r-*) 'found', Grk *εὑρίσκω* 'find, discover', Arm *gerem* 'take prisoner'. Balto-Slavic shows an extended **u̯rēt-* (**u̯reh₁t-*?) in Lith *su-rė́sti* 'catch', OCS *sŭ-rěsti* 'find, meet', *ob-rěsti* 'find'. A word of the west and center of the IE world.

See also FIND ONE'S WAY; KNOW; SEEK. [M.N.]

FIND ONE'S WAY

pent- 'find one's way' (pres. ***pénte/o-***). [*IEW* 808–809 (**pent-*); Wat 49 (**pent-*); Buck 10.74]. The underlying verb is preserved only in Germanic: ON *finna* 'find', OE *findan* 'find' (> NE *find*), OHG *findan* ~ *fintan* 'find', Goth *finþan* 'recognize, learn', OE *fandian* 'explore, seek out', OHG *fandōn* 'explore, seek out'; OE *fundian* 'strive, hasten', OHG *funden* 'strive, hasten'. Widespread and old is the derivative **póntōh₂s* (gen. **pn̥th₂ós*) 'untraced path': Lat *pōns* 'bridge', OPrus *pintis* 'way', OCS *pǫtĭ* 'way', Grk *πόντος* 'sea' (< *'path through the sea'), *πάτος* 'path, stride', *πατέω* 'step', Arm *hun* 'ford', Av *pantā* (gen. *paθō*) 'path' (from Iranian come OE *pæþ* 'path' [> NE *path*], OHG *pfad* 'path'), OInd *pánthās* (gen. *pathás*) 'path (as yet untraveled), route', TochB *amāks̥-pänte* 'wagon-master' (*-pänte* < **pn̥th₂-ó-* 'he of the way').

See also FIND; ROAD. [D.Q.A.]

Further Reading

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FINGER *see* HAND

FIR

dhonu- 'fir' (nom. ***dhónōu*?**). [*IEW* 234 (**dhanu-*); Buck 8.65; Fried 150–151; BK 141 (**dʸan-w-*)]. OHG *tanna* (< **dhonu̯ōn-*) 'fir', Hit *tanau* 'fir'. Though supported by only two stocks, this equation is semantically, phonologically, and morphologically perfectly regular (Germanic, of course, has hosts of nouns that have been extended by one sort of an *n*-stem or another). The probability of PIE status for this word, already strong, is even stronger if Av *θanwarə* (gen. *θanwanō*) (with initial influenced by *θang-* 'pull') 'bow', OInd *dhánuṣ* (< **dhánur*, gen. *dhánvanas*) 'bow' is added to the equation. The Indo-Iranian forms reflect an earlier **dhénu̯r̥* (gen. **dhénu̯enos*) 'bow' (granted that the use of fir [saplings] for bows seems unlikely and needs to be researched; there is some archaeological evidence for pine in the manufacture of European prehistoric bows). Exactly the same word, with the same archaic paradigm, reappears in Lat *femur* (gen. *feminis*) 'thigh'. In Latin the PIE cluster *-nu̯-* appears as *-m-*. The semantic relationship between 'thigh' and 'bow' is seen again in Grk *σκέλος* 'thigh' and *σκολιός* 'bent'.

$h_a$ebi- 'fir'. [Fried 150]. Lat *abiēs* (gen. *abietis*) 'silver fir (*Abies pectinata*)', Grk (Hesychius) *ἄβις* 'fir'. The status of the form in Hesychius is debatable as it might be Greek, Illyrian or some other language, words of which might find themselves in a Greek text (if the word is not Greek but Illyrian, we are free to reconstruct **$h_a$ebhi-*). In later Greek a Scythian place-name *Ἀβική*, a district on the Borysthenes, is glossed as 'the wooded/wild (place)'. This word's occurrence in Latin, Illyrian (or Greek), and Iranian would appear to be presumptive evidence of its PIE status.

The distribution of the fir (*Abies*) is primarily southerly and pollen indicators suggest that *c* 3000 BC it was to be found from northern Spain/southern France across central Europe and the Mediterranean (it is a dominant tree of Anatolia) to northwest of the Black Sea and the north Caucasus and then across Siberia.

See also PINE; TREES. [D.Q.A.]

FIRE

$h_x$eh$_x$tr̥ 'fire'. [*IEW* 69 (**āt(e)r-*); Wat 4 (**āter-*); cf. GI 690; Buck 1.81]. Lat *āter* 'black, dark', perhaps Arm *ayrem* 'burn', Av *ātarš* (gen. *āθrō*) 'fire'. Perhaps also OIr *áith* 'furnace', Wels *odyn* (< **āti-*) 'furnace' and Palaic *hā-* 'be hot' derive from the same root. Although sometimes cited as cognate SC *vȁtra* 'fire' may be a loan from Romanian *vatră* which may in turn be from Alb *votrë*; possibly all three of these are loans from Iranian. Av **ātr̥š*, acc. *ātrəm* (**ātr̥m*) points to an old neuter in *-r̥*. In **$h_x$eh$_x$t-* at least one laryngeal was h_2, perhaps both, i.e., reduplication. The OInd *átharvan-* 'priest' may be unrelated. Geographic distribution of the few certain cognates still supports PIE antiquity.

h_xn̥gʷnis 'fire'. [*IEW* 293 (**egnis*); Wat 16 (**egni-*); GI 605 (**n̥k'ni-*); Buck 1.81]. Lat *ignis* 'fire', Lith *ugnìs* 'fire', Latv *uguns* 'fire', OCS *ognĭ* 'fire', Rus *ogónĭ* 'fire', OInd *agní-* 'fire'. Certain PIE status.

péh$_2$ur 'fire'. [*IEW* 828 (**peu̯ōr*); Wat 53 (**pūr-*); Buck 1.81; BK 43 (**p[ʰ]a-w-/*p[ʰ]ə-w-*)]. Umb *pir* 'fire', ON *fýrr*, *fūrr*, *funi* 'fire', OE *fȳr* 'fire' (> NE *fire*), OHG *fiur* 'fire', Goth *fōn*, *funins* (< **pu̯ōn*) 'fire', OPrus *panno* (< **pu̯on-*?) 'fire', Czech *pýř* 'ashes', Grk *πῦρ* 'fire', Arm *hur* (gen. *hroy*) 'fire', *hnocʿ* 'oven', Hit *pahhur*, (gen. *pahwenas*) 'fire', TochA *por* 'fire', TochB *puwar* 'fire'. Clearly of PIE status. The original paradigm was **péh$_2$ur*, **ph$_2$u̯én-s*. The secondary zero-grade **ph$_2$ur-* > **puh$_2$r-* through metathesis. There were several reshufflings, e.g., gen. **ph$_2$u-n-es* > **punes* in Germanic.

The two main competing terms, **h_xn̥gʷnis* and **péh$_2$ur̥*, both mean 'fire' but have been seen to have originally constituted an opposition. The first word, regularly masculine in gender, is seen to represent the concept of 'fire' as something active, hence its deification in OInd *Agni-* 'fire (god)' who is one of the most invoked deities of the *R̥gveda*. In contrast, **péh$_2$ur* is neuter in gender and traditionally regarded as the inactive conception of 'fire' as purely a material substance.

See also ASH[2]; BURN; CHARCOAL; DRY; FIRE CULT; FIRE IN WATER; HEARTH. [R.S.P.B.]

FIRE CULT

The use of fire in religious ritual is so universal that it is

hardly unexpected that there is considerable evidence for its employment among the early Indo-Europeans although the lexical evidence for its deification is minimal. Central to sacrifice in ancient India was the offering made to the gods and dispatched by fire which was deified as *Agni* (fire) who, consequently, conveyed human offerings to the gods and was the second most frequent recipient of hymns in the *Ṛgveda*. The elaborate structure of the Old Indic fire sacrifice, the *Agnicayana*, although extensively described in Indic religious literature, is difficult to integrate into a comparative IE framework as it appears to combine both native Indic (Harappan?) traditions, e.g., it may involve a massive brick altar constructed along precise geometric plans, and intrusive Indo-Aryan elements, e.g., fire cult, employment of only hand-made rather than wheel-made pottery. Furthermore, despite Agni's transparent IE etymology, further outcomes of PIE *$*h_x\eta g^w nis$* 'fire' such as Lat *ignis* or Lith *ugnìs* lack such deification and even ancient Iran, which placed great emphasis on fire-worship, replaced this word with *Ātar*. An underlying lexical comparison may be more easily found in the names of the Greek and Roman goddesses associated with fire where Greek *Ἑστία* (*Hestia*) and Latin *Vesta* may both derive from *$*h_1u$-es-* (a byform of *$*h_1eus$* 'burn').

Reflections of the IE three "estates" can be found in the lore of the sacred fires of Iran where in Firdausi's *Shāhnāmeh* (Epic of the Kings), there were instituted the three great sacred fires: *Atur Farnbag* (priestly fire), *Atur Gushnasp* (warriors' fire), and *Atur Bazzen Mihr* (the third estate fire).

The most interesting comparisons that may hint at a common core of IE behavior is to be found in the ritual treatment of fire of the ancient Indians and Romans. Vedic India employed three fires, two axial on an east-west line and one lateral. One of the axial fires was the *gārhapatya* 'fire of the *gṛhapati* (master of the house)'. It was the principal fire from which the others were lit and it was round in shape. As the familial sacred fire, it was expected to be constantly maintained and passed from father to son. The other axial fire was the *āhavanīya* 'fire of the offerings', the fire of the sacrifice made to the gods. It was quadrangular and oriented to the four cardinal directions. The third, lateral fire was the *dakṣināgni* 'fire of the right/south' which served to protect the other fires from attack from the dangerous side; it was semi-circular.

The ancient Romans also maintained distinctions between the fire of the household and offering fires as well as recognized distinctions in the shape of the hearth or fire. Their greatest fire was the *aedes Vestae* or *ignis Vestae*, the uniquely round fire tended by Vestal Virgins that must always have been kept burning and if extinguished, it was required to be relit according to a specific ritual not involving another fire. This fire was housed in the *Aedes rotunda Vestae* (round house of the Vestals), the only circular temple in Rome (cf. also the sacred fire of the Greeks, associated with the goddess Hestia, which was kept in the *prytaneum*, a circular building). The Romans also maintained the distinction between the fire of the master of the house (a foculus, a portable hearth, brought to the site as a representative of the domestic fire as its purpose was to receive incense and the wine, associated with domestic worship) and the fire of the offerings in a rectangular temple. The underlying purpose of the different shapes was shared by both the Vedic Indians and Romans: the square fire or the temple in which it was housed concerned the celestial world and had to be ordered to the four directions of the sky while the round fire was earth-centered from which it drew its power.

Archaeological evidence from the Bronze Age cemetery at Tulkhar in south Tadzhikistan, which was presumably utilized by Indo-Iranians, found rectangular hearths associated with male burials and round hearths with female, suggesting that the shape of the fire may also have had a sexual valency, which might also serve to explain the connection between females and the circular fire in later Roman religion. Evidence for hearths, ritual fires and ash pits, associated with both structures (houses, palaces, temples) and graves is ubiquitous across Eurasia.

A further item of IE comparanda is the tendency to invoke the fire deity at the beginning or end (or both) of a litany of gods or an offering, e.g., in invocations to multiple gods in the *Ṛgveda*, Agni is usually invoked at one end or the other; in Iran, fire occurs at the end of the list of archangels; and in Rome, Vesta is at the end of every invocation that involves more than one divinity.

Elsewhere in the IE world, there is evidence for sacred fires although without the striking comparative evidence seen between India and Italy. Irish sources, for example, emphasize the close relationship between the druid and fire, especially the establishment of the ritual fires at the feast of *Beltaine* ('the fire of Bel[enus]', a surname of Lug), which was held on the first of May. And in the Baltic world, fifteenth century Lithuanians were accused of worshipping a fire dedicated to Perkūnas which was tended by virgins who would be executed if it went out.

See also **Bishkent Culture**; **Fire**; **Fire in Water**; **Hearth**.

[J.P.M.]

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FIRE IN WATER

?*neptonos ~ ***$*h_2ep\bar{o}m$ nepōts*** 'grandson/nephew of waters'. [GI 582–583; Del 74; BK 573 (*$*n^yip[^h]$-/$*n^yep[^h]$-*)]. OIr *Nechtan* (guardian of well), Lat *Neptūnus* (sea-god), Av *Apąm Napāt*, OInd *Apā́m Nápāt*. Possibly related here, mythically if not lexically, is ON *sævar niðr* 'son of the sea', a

kenning (by-word) for 'fire'.

A number of scholars reconstruct a PIE myth of "fire in water" based on both the lexical correspondences reflecting a 'grandson/nephew of waters' and recurrent mythic elements. The proposed Celtic reflex derives from early Irish tradition where Nechtan is possessor of a secret well which may be approached only by three cupbearers and himself; the mysterious fire in the water burns out the eyes of anyone else who approaches it. Nechtan's wife, Bōand (who lends her name to the river Boyne), attempts to draw water from the well, walking withershins about it three times and incurring three mutilations—the loss of her thigh, a hand and an eye—before being pursued to the sea and drowned by the water from the well. The path of her retreat marks the course of the river Boyne.

The Latin reflex, *Neptūnus*, concerns the Lacus Albanus, the Alban lake, a lake within a deep crater that was supplied by underwater springs. Inexplicably during the dry season, at the time of the rising of Syrius (23 July, the time of the Roman festival of the Neptūnālia) the lake rose to overflow through the mountains and began running toward the sea. The Romans learned from the Oracle of Delphi and an Etruscan soothsayer that if the waters reached the sea, their enemies in the town of Veii would be undefeatable. The Romans managed to change the course of the overflow so that it watered the fields rather than reached the sea. The account in Livy describes how the water (*aquam*) needed to be 'extinguished' (*extinguere*), a verb that generally meant 'put out a fire' at the time of Livy.

The proposed reflex in Indo-Iranian tradition is most clearly found in the *Avesta* (*Yašt* 19). Here one encounters the *xvarənah*, the fiery essence of kingship, which the god *Apąm Napāt* places in Lake Vourukaša for safe-keeping. Only a member of the *airya* (Aryan) may gain the *xvarənah* and the tale recounts how a non-Aryan Franrasyan dived into the lake three times to recover the reward while the *xvarənah* fled, producing overflows from the lake which formed a series of rivers. The Indic reflex is devoid of narrative myth but there are enough descriptive elements to indicate that *Apąm Napāt* was both fiery (it is employed as a nickname of the fire god Agni) but also dwelt in waters, burnt without fuel, and had to be approached by priestly water-bearers.

Structurally, a possible Greek version of the myth has been sought in the figure of Poseidōn whose name may possibly be etymologized as 'husband/lord of waters', i.e., < **dā-* 'flowing water', Iran *danu* 'river', etc. It is related (Apollodorus 11, 14, etc.) how Danaus sent his daughter Amȳmōnē in search of water when she was accosted by a satyr who was driven off by Poseidōn who hurled his trident which lodged in the earth. Instructed to pull the trident out, Amȳmōnē released three springs from each of the holes which commingled to form the Lerna river.

The structure of the reconstructed myth then points to a fiery deity resident in water whose powers must be ritually controlled or gained by a figure qualified to approach it. Several of the myths suggest that the unsuccessful approach to the deity resulted in the formation of (three) rivers, real or mythical.

Whether the structural comparisons are necessarily well supported by the lexical evidence has been disputed. F. Bader has suggested that the Latin reflex, *Neptūnus*, was originally 'god of springs and rivers' and has related his name not to the kinship term but rather Av *napta-* 'wet'. It has also been noted that there is an Umb *nepitu* 'submerged (in a river)' and an Etruscan *nepuns* (< **nep-* 'wet'). Critics of the Celtic evidence derive OIr *Nechtan* from OIr *necht* 'pure, clean, white', a word related to OInd *niktá-* 'washed'. If the Celtic and Latin objections are upheld, the postulated PIE **neptonos* would seem to be excluded, at least in terms of its proposed lexical cognates, and the only comparisons remaining would be confined to Indo-Iranian.

See also FIRE; FIRE CULT. [E.C.P., J.P.M.]

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FIRM

?*pastos 'firm'. [*IEW* 789 (**pasto-*); Wat 47 (**past-*); GI 648]. ON *fastr* 'fast', OE *fæst* 'fast' (> NE *fast*), OHG *festi*, *fasto* 'fast, strong', Arm *hast* 'firm'; possibly OInd *pastyám* 'habitation'. Far less likely cognates are Lat *postis* 'door post' and TochB *epastye* 'skillful, clever'. The weakness of the proposed evidence, outside of Germanic and Armenian, hardly leaves this word as a strong candidate for PIE status.

See also POST. [J.C.S.]

FISH

The words Proto-Indo-European-speakers used to designate the various fish they were familiar with are harder to reconstruct than words for mammals. In part this difficulty arises because unless one is primarily a coastal dweller fish of any sort are a less salient portion of the environment than mammals are—they are ordinarily invisible and usually less important economically. Fewer members of the society are likely to have "specialized" knowledge of the relevant vocabulary and thus it may be easier for an individual item to be lost or to be transferred to a different referent. As a case in

point we may note that the descendants of *ghérsos* in two so closely allied languages as Norwegian and Swedish refer to two quite different ('pikeperch' and 'ruff' respectively) and perceptually distinct species (indeed genera) of fish. Our difficulty is compounded by the fact that the types of fish found in central, northern, or eastern Europe, the most plausible places to look for early IE communities, are much more localized in their geographical distribution than are the corresponding mammals. IE groups moving into western Europe, the Mediterranean basin or Central Asia would have moved into areas with a generally different assortment of fish or into areas where fresh water fish (the Mediterranean basin) or fish of any sort (Central Asia) are few in number. Moreover, we know absolutely nothing about the words for 'fish' or various types of fish in Anatolian. Thus, even if PIE were rich in its fish terminology, we would expect that Celtic, Italic, Greek, Armenian, Iranian, Indic, and Tocharian would have lost, or at best reassigned, many of the inherited words referring to fish as they moved into their new environments. IE groups that we would expect to preserve the original fish terminology would be Germanic, Baltic, and Slavic, three geographically contiguous groups which are known to share a sizable number of innovations in other areas of vocabulary that are not general, pan-IE words. It is sobering to recall that even in the Uralic family, whose ancestors are believed to have practised a primarily hunting-fishing-gathering economy, there are only four, perhaps five, solidly attested names for different species of fish in Proto-Uralic, i.e., **totka* 'tench (*Tinca tinca*)', **unca* 'sheatfish (*Stenodus leucichthys*)', **śampe* 'sturgeon (*Acipenser baeri/guldenstädti/sturio*)', **käre* 'sterlet (*Acipenser ruthenus*)' and perhaps **key-* 'little whitefish (*Coregonus lavaretus*)'. In the following list of items are general terms for fish and those words where it is difficult to assign an original meaning at the level of species or even genera. More specific designations are to be found as separate entries.

***dhĝhuh$_x$-** 'fish'. [*IEW* 416–417 (**ĝhdū-*); Wat 14 (**dhghū-*); GI 453 (**d^{h}ĝ^{h}ū-*); Buck 3.65; BK 80 (**dig-/*deg-*)]. OPrus *suckis* 'fish', Lith *žuvìs* (dialectal consonant stem gen. pl. *žuvų*) 'fish', Latv *zuvs* ~ *zivs* 'fish', Grk *ἰχθῦς* 'fish', Arm *jukn* 'fish'. Cf. Latv *zutis* 'eel'. Attested only in a broad band of central IE languages, its archaic shape, both phonological and morphological, as well as its probable lack of any root connections within PIE (although GI see it as a derivative of **dheĝh-* 'earth', i.e., the 'underground' or 'lower' animal), suggest that this may well have been *the* PIE word for 'fish' which has been replaced, particularly in the west of the IE world, by the word for 'trout'.

***mn̥h$_x$-** '± minnow; small fish'. [*IEW* 731 (**m$_e$ni-*); Wat 41 (**men-i-*)]. OE *myne* 'minnow (*phoxinus phoxinus* and similar small cyprinidae)' (> ME *meneu* > NE *minnow*), OHG *muniwa* 'minnow', Rus *menĭ* 'burbot (*Lota lota*)', Grk *μαίνη* '*Maena vulgaris* (a small sprat-like fish which was salted)', and perhaps OInd *mīná-* 'fish'. But the Old Indic word is not to be separated from a rich collection of similar words in the Dravidian languages. Whether the Indic word is borrowed from Dravidian or vice versa is not easily determined but a Dravidian origin for *mīn* 'fish' is certainly the more probable as the 'fish' sign, phonetically *mīn*, is one of the most plausible readings for the Indus Valley inscriptions which are widely although not universally attributed to early Dravidian speakers. Even if inherited from PIE, it is possible the Indic word was phonologically influenced by the similar word in Dravidian. Possibly also belonging here are Lith *ménkė* 'codfish (*Gadus morrhua*)', Latv *mence* 'codfish'. From **men-* 'small, thin'. At least a word of the west and center of the IE world; if the Old Indic word is cognate, then we have evidence for pan-IE status.

?*ḱónkus a kind of fish. [*IEW* 523 (**ḱank-*)]. ON *hār* (< Proto-Gmc **hanhu-*) 'shark', OInd *śaṅkú-* a certain kind of aquatic animal or fish, perhaps 'skate-fish', *śakulá-* a kind of fish. Not all authorities would agree that the Indic and Old Norse words are related; in any case, it is not possible to reconstruct a more specific meaning. Of doubtful PIE status.

***krek-** 'fish-eggs, frog-spawn'. [*IEW* 619 (**krek-*); Wat 32 (**krek-*)]. ON *hrogn* 'roe' (borrowed > NE *roe*), *hrygna* (< Proto-Gmc **hrugnjōn*) 'female salmon or trout', OHG *(h)rogo* ~ *(h)rogan* 'roe', Lith (pl.) *kurkulaĩ* 'frog spawn', Latv (pl.) *kur̃kulis* 'frog spawn', Rus *krjak* (< Proto-Slavic **krěkŭ* or **krękŭ*) 'frog spawn'. Clearly all these words share a single root, though no particular PIE shape is reconstructible. A word of the northwest of the IE world.

See also Animal; Carp; Eel; Leech; Perch; Salmon; Sheatfish; Sturgeon; Tench; Trout. [D.Q.A.]

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FIST *see* HAND

FLAT

***pelh$_a$k-** 'spread out flat'. [*IEW* 831 (**plā-k-*); Wat 48–49 (**pelə-*); GI 581 (**p^{h}el-*); Buck 12.71; BK 49 (**p[^{h}]al-/*p[^{h}]əl-*)]. Lat *placeō* 'please, be acceptable to', *plācō* 'soothe, calm', ON *flā* 'chunk of a cliff-face', OE *flōh* 'flagstone', OHG *fluoh* 'cliff', Lith *plākanas* 'flat', Latv *plâce* 'shoulder blade', Grk *πλάξ* 'flat surface', *πέλαγος* (< **pelh$_a$g-*) 'sea', TochAB *plāk-* 'be in agreement' (< *'be level, even'). The root, which is widely spread and clearly of PIE status, also appears with a variety of other extensions, e.g., **pel-to-m* > OE *feld* 'flatland, field' (> NE *field*); **pleh$_a$-ru-* > OE *flōr* 'floor' (> NE *floor*); **pleh$_a$nos* [*IEW* 806 (**pelə-*); Wat 48–49 (**pelə-*); GI 683 (**p^h(e)l-H-*); Buck 12.71; BK 48 (**p[^{h}]al-/*p[^{h}]əl-*)]: Lat *plānus* 'flat, even, plain', OPrus *plonis* 'threshing floor', Lith *plónas* 'thin', Latv *plāns* 'flat'. Numerous Gaulish place and personal names ending in *-lano* have been connected here, most notably *Medio-lānum* 'Milan', but this is uncertain and

some presume a homophonous name element related to the meaning 'full', cf. OIr *lān*, etc.; cf. also *$*plh_a$-meh_a* > Lat *palma* (< **palama*) 'palm'.

See also BROAD; COUNTRY. [A.D.V., J.C.S.]

FLAX

***linom** (central) ~ ***līnom** (western) 'flax (*Linum usitatissimum*)'. [*IEW* 691 (**lī-no-*); Wat 37 (**līno-*); GI 568 (**līno-*); Buck 6.23]. OIr *līn* 'net', Wels *llin* 'flax, linen', Lat *līnum* 'flax, linen', OPrus *lynno* 'flax', Lith *linas* (sg.) 'flax plant', (pl.) *linaĩ* 'flax, linen', Latv (pl.) *lini* 'flax', OCS *lĭnĕnŭ* 'linen', Rus *len* 'linen', Grk *λίνον* 'flax, thread; linen'. The Germanic set of OE *līn* 'linen; flax', (adj.) *līnen* 'linen' (> NE *linen*), OHG *līn* 'linen; flax', Goth *lein* 'linen' has often been derived from Latin *līnum* which is possible but not absolutely required by the linguistic evidence nor that from archaeology. A word at least of the west and center of the IE world.

Flax (*Linum usitatissimum*) is well known across Europe and western Asia where it was the principal plant involved in textile manufacture and its oil, which constitutes some 40% of the seed, was employed both as a foodstuff and for lamps. Domestic flax is derived from *Linum bienne* or *Linum usitatissimum* subsp. *bienne* (wild flax) which is distributed locally across southern Europe to the Caucasus and the Near East. The earliest wild flax in the archaeological record derives from the Near East in contexts of the ninth millennium BC onwards and domestic flax has been recovered from sites in southwest Asia from seventh millennium contexts. Actual fragments of linen have also been recovered from the seventh millennium BC in both Israel and somewhat later in Turkey. Flax is known to occur in small amounts in Neolithic sites in Europe, first in Greece, but then also in Swiss lakeside sites, the Linear Ware Culture, the early Neolithic of southern Britain, and in northern Europe in the TRB culture. Its earliest occurrence in the pollen record of Ireland is during the early Bronze Age, *c* 2200 BC. There does not yet seem to be evidence for it in India earlier than the Bronze Age nor is it recorded so far earlier than the Bronze Age in the Caucasus. The attested word may then be inherited or a borrowing from some central European language.

See also AGRICULTURE; TEXTILES. [D.Q.A., J.P.M.]

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FLEA

***plus-** 'flea'. [*IEW* 102 (**blou-* ~ **plou-*); Wat 52 (**plou-*)]. Lat *pūlex* (< **puslek-* < **plusek-*) 'flea', Arm *lu* (< **pluso-*) 'flea', Yidgha *frīgo* 'flea' (< Proto-Iranian **plušV-*), OInd *plúṣi-* 'flea'. Grk *ψύλλα* (< **psuli̯(e)h$_a$-*) 'flea' probably belongs here, metathesized from an earlier **plusi̯(e)h$_a$-*). A variant **bhluseh$_a$-* 'flea' is found in Balto-Slavic: Lith *blusà* 'flea', Latv *blusa* 'flea', OCS *blŭcha* 'flea', Rus *blokhá* 'flea'. Other variants are seen in OE *flēah* 'flea' (> NE *flea*), OHG *floh* 'flea' (the Germanic words, presupposing a putative PIE **plóukos*, may owe their phonological shape to a folk-etymological relationship with 'to fly') and Alb *plesht* 'flea'. In one form or another widespread and old in PIE.

See also FLY[1]. [D.Q.A.]

FLEE

***bheug-** 'flee'. [*IEW* 152 (**bheug-*); Wat 8 (**bheug-*); GI 150 (**b^{h}eugh-*); Buck 10.51; BK 309 (**baw-ak^y-/ *bəw-ak^y-*)]. Lat *fugiō* 'flee', Lith *búgstu* 'be frightened', Grk *φεύγω* 'flee'. Sufficiently well-attested to be a word of the west and center of the IE world.

See also FEAR; FRIGHTEN; RUN. [D.Q.A.]

FLEECE *see* HAIR, WOOL

FLOAT *see* SWIM

FLOOR

***dm̥-pedom** 'floor'. [*IEW* 198 (**dm̥-pedom*)]. ON *topt* 'place for a building', Grk *δάπεδον* 'floor'. From **dem-* 'build, house' and **ped-* 'foot'.

The absence of a specific word for the 'floor' of a house belies the variety of possible floor types known in the archaeological record during the period of the Proto-Indo-Europeans. While most evidence indicates floors made simply of stamped earth, lime-plastered floors are already known since the late Mesolithic both in sites in southwest Asia and in Europe. In wetland regions such as lakeside settlements in Switzerland and southern Germany, timber floors are in evidence since the Neolithic period. And while single story structures are the norm in the Neolithic of Eurasia, two story structures have been suggested for both the Balkans and the Tripolye culture northwest of the Black Sea.

See also GROUND; HOUSE. [A.D.V., J.P.M.]

FLOTSAM

?*k̂opos 'flotsam'. [*IEW* 529 (**kāpo-*)]. Lith *šãpai* 'what remains in the field after a flood', *šãpas* 'stalk, dry branches, splinter', OInd *śā́pa-* 'what floats in water'. If Lith *šãpti* (*šampù*) 'disappear, fade away', or *šèpti* (*šempù*) 'grow a stubble, grow a beard' belongs with *šãpa-*, the connection between the Baltic and Old Indic form becomes doubtful.

See also SWIM. [R.S.P.B.]

FLOW

As in most modern IE languages verbs for 'run' could also be used of water and other liquids, e.g., NE *running water*. The words assembled here would appear to have been used primarily or exclusively of liquids.

***h$_1$ers-** 'flow'. [*IEW* 336 (**ere-s-*); Wat 17 (**ers-*)]. Lat *errō* (< *h$_1$erseh$_a$i̯e/o-*) 'go astray', *error* 'error', OE *eorre* 'angry, embittered', *eorsian* 'make angry', OHG *irri* 'perplexed', *irran* 'confuse', *irrōn* 'be confused', Goth *airzeis* 'deceived', *airzjan*

'mislead', Grk *ἀπεράω* 'pour out', Arm *eṙam* (< *h_1erseh_aie/o-) 'seethe, be disquieted, Hit *arszi* 'flows', OInd *árṣati* 'flows'. Reasonably widespread, certainly old in IE. In the west of the IE world this verb has been restricted to metaphorical meanings, such as 'go astray'. Perhaps an enlargement of *h_1er- 'set in motion'.

***h_1reih_x-** 'move' (pres. ***$h_1rinéh_xti$**). [*IEW* 330–331 (**erei-*); Wat 54 (**rei-*)]. OInd *riṇā́ti* 'lets flow'. Cf. the derivative *$h_1rih_xtís$*: OE *rīð* 'stream', OInd *rītí-* 'stream, run'; and also OIr *rīathor* 'waterfall', OWels *reatir* 'waterfall', Lat *rīvus* 'brook', OCS *rějǫ* 'flow', Alb *ritë* (< **rinëtë*) 'moist, damp'. Both *h_1rei- and *h_1reih_x- are enlargements of *h_1er- and are further attestations to the latter's antiquity in IE.

***$g^wel(s)$-** 'well up, flow'. [*IEW* 471–472 (**g^uel-*); cf. VW 201; BK 362 (**q^wal-/*$q^wəl$-*)]. OHG *quellan* 'well up, swell', Grk *βαλανεύς* 'bathmaster', *βλύω* ~ *βλύζω* 'well up', OInd *gálati* 'drip, ooze, trickle', TochB *käls-* '± trickle'. The geographical distribution suggests a likely candidate for PIE status.

***h_ael-** 'well up, flow'. [Mayrhofer I, 120]. OInd *árma-* 'spring', TochB *ālme* 'spring', *yolme* 'pool, pond' (< **$h_2élmo$-*). Formally related are Lith *al̃mės* 'serum, pus', *almuõ* 'pus', and certain European river names, *Almus*, *Alma*. Semantically related is Latv *aluôgs* 'spring'. The geographical spread of these words suggests considerable antiquity within IE.

***del-** 'flow'. [*IEW* 196 (**del-*); Wat 11 (**del-*); BK 118 (**t'ul^y-/*t'ol^y-*)]. MIr *delt* 'dew', ME *tal(u)gh* 'tallow' (> NE *tallow*), MHG *talg* 'tallow' (Gmc < *'drippings'), Arm *teł* 'heavy rain', *tełam* 'rain, irrigate'. If all these words belong together, then we have at least a word of the west and center.

***ser-** 'flow'. [*IEW* 909 (**ser-*); Wat 58 (**ser-*); GI 196 (**ser-*); BK 163 (**s^yur-/*s^yor-*)]. The underlying verb is seen only in MIr *sirid* 'wanders through'. Otherwise attested in a few nominal derivatives: Lat *serum* 'whey', Alb *gjizë* (< **sr̥dio-*) 'whey, cheese', Grk *ὀρός* 'whey'. Certainly applied to 'whey' in the west and center of the IE world.

***sreu-** 'flow' (pres. ***sréue/o-**). [*IEW* 1003 (**sreu-*); Wat 64 (**sreu-*); GI 196 (**sr-ew-*); Buck 10.32]. Lith *sraviù* 'ooze', Grk *ῥέω* 'flow', *ῥώομαι* 'move with speed or violence, rush at', Arm *aṙoganem* 'moisten', OInd *srávati* 'flow'. Cf. **srouo/eh_a-*: Lith *sravà* 'what flows; menstruation', OCS *ostrovŭ* 'island', Grk *ῥόος* 'flow', OInd *srava-* 'flow'. Cf. also OIr *srūaim* 'stream', ON *straumr* 'stream', OE *strēam* 'stream' (> NE *stream*), OHG *stroum* 'stream'. Widespread and old in IE. Presumably an enlargement of the previous word which it had largely supplanted even in late PIE times.

***dhg^wher-** 'flow (away)'. [*IEW* 487 (**$g^uhđer$-*); GI 129]. Grk *φθείρω* 'ruin, waste', *φθείρομαι* 'perish', Av *γzaraiti* 'flows', OInd *kṣárati* 'flows, perishes'. Archaic in shape, certainly an IE word of the south-east.

***leg-** 'drip, trickle'. [*IEW* 657 (**leg-*); Wat 35 (**leg-*)]. OIr *legaid* 'perishes, melts', *do-lega* 'destroys', Wels *dadleithiaf* 'melt', ON *lekr* 'leak', *leka* 'let water through' (borrowed > NE *leak*), OE *hlec* 'leak' (with secondary *h-*), *leccan* (< **logeie/o-*) 'moisten' (> NE *leach*), Arm *lič* (< **lēgieh_a-*) 'bog'. At least a word of the west and center.

***stag-** 'seep, drip'. [*IEW* 1010 (**stag-*); Wat 65 (**stag-*)]. Wels *taen* 'sprinkler', OBret *staer* (< **stagreh_a-*) 'stream', Lat *stāgnum* 'standing water: lake, pool, swamp, fen', Grk *στάζω* 'drip', *σταγνών* 'a drip'. A late word of the west and center of the IE world.

***ueis-** 'ooze out, (of a liquid) spread slowly'. [*IEW* 1134 (**ueis-*); Wat 75 (**weis-*)]. The underlying verb is preserved only in Old Indic, e.g., aorist *aveṣan* 'they flowed'. Cf. the root noun **uiss* ~ **uīs* 'poison', OE *wāse* 'mud, ooze' (> NE *ooze*), and a number of river names, e.g., the *Weser* (Germany), the *Wear* (England), the *Vistula* (Poland). Old in IE.

See also POISON; POUR; RIVER. [D.Q.A.]

FLOWER

***$h_aéndhes$-** '± flower'. [*IEW* 40–41 (**andhos*); Wat 2 (**andh-es-*); GI 770 (**$Hand^h$-*); Buck 8.57]. Fris *åndul* 'marshgrass', Alb *ëndë* 'flower', Grk *ἄνθος* 'flower', Arm *and* 'field', OInd *ándhas-* 'an herb, the soma-plant; grassy ground'. The geographic distribution and the exact morphological equivalence of the Greek and Old Indic words seem to assure PIE status although its exact meaning remains difficult to determine. GI have sought to derive this word from Proto-Semitic **ḥint-(at)-* 'wheat, grains' but this seems rather distant semantically.

?*$bhloh_xdhos$ 'flower'. [*IEW* 122 (**bhlō-*); GI 389 (**b^hloH-*); Wat 7 (**bhlō-*); Buck 8.57; BK 11 (**bul-u-/*bol-u-*)]. MIr *blāth* 'flower', Wels *blawd* 'flower', OHG *bluot* 'flower'. Dialectally restricted to the western fringe of the IE world. From **bhel-* '± blossom, bloom'. Cf. also Lat *flōs* 'flower', *Flōra* goddess of plants, ON *blōmstr* 'flower', OE *blōstma* 'flower' (> NE *blossom*), OHG *bluomo* 'flower', Goth *blōma* 'flower'.

See also LEAF; PLANTS. [D.Q.A.]

FLY[1]

***mus/h_x-** 'fly; gnat, midge, mosquito'. [*IEW* 752 (**mū-*); Wat 43 (**mu-*); GI 452 (**mu(s)-*); Buck 3.83]. From **mus-*: Lat *musca* 'fly', OPrus *muso* 'fly', Lith *musìs* (gen. pl. *musų̃*) ~ *musė̃* ~ *musià* 'fly', Latv *muša* 'fly', OCS *mŭšĭca* 'gnat, midge', Rus *móška* 'gnat, midge', OCS *mucha* 'fly', Rus *múkha* (< **mouseh_a-*) 'fly', Grk *μυῖα* 'fly', Arm *mun* (< **mus-no-?*) 'gnat, midge, mosquito'; from **muh_x-*: ON *mý* 'gnat, midge, mosquito', OE *mycg* 'gnat' (> NE *midge*), OHG *mucka* 'gnat, midge, mosquito', Alb *mizë* 'fly'. It is probable that **mus-* is the more original form, and that possibly of imitative or onomatopoeic origin. **muh_x-* was the result of sound-symbolic substitution of **-h_x-* for **-s-* in certain parts of the IE-speaking world. The Lithuanian genitive plural *musų̃* strongly suggests an original consonant stem (as does the formation of Lat *mus-ca*) and, with **-h_x-* rather than **-s-*, so does Alb *mi-zë*. Homophonous in its root shape with **mus-*

'mouse', it is probably of different origin, though there may well have been a secondary association as 'vermin' or the like. However, the potential semantic clash has been obviated by the generalization of a long vowel, i.e., **mūs-* in the 'mouse' word and/or extensions of one sort or another in the 'fly' word (the substitution of **-h_x-* for **-s-* may also have been partly motivated by a desire to separate more clearly 'mouse' and 'fly'). Certainly a word of the west and center of the IE world. Cf. the derivative: **k̑un-musi̯eh$_a$-* 'dog-fly' [*IEW* 633] in Lith *šun-musė̃* 'dog-fly', Grk *κυνάμυια* 'dog-fly' (abusive epithet). If an ordinary fly is annoying, one that would annoy a dog (rather than a person) must be a real low-life.

See also INSECTS. [D.Q.A.]

FLY²

***pet-** 'fly' (pres. ***péte/o-**; intensive pres. ***potéi̯e/o- ~ *poteh$_a$i̯e/o- ~ *pōteh$_a$i̯e/o-**). [*IEW* 825–826 (**pet-*); Wat 50–51 (**pet-*); GI 455 (**p^het^h-*); Buck 10.37; BK 45 (**$p[^h]at[^h]$-/*$p[^h]ət[^h]$-*)]. Wels *hedeg* 'fly', Lat *petō* 'fly at, attack', Latv *pẽtît* 'search after', Grk *πέτομαι* 'fly', *ποτέομαι ~ ποτάομαι ~ πωτάομαι* 'flutter', Arm *tʻrčʻim* (< **pter-i-sk̑e/o-*) 'fly', Hit *peta-* 'fly', Av *pataiti* 'flies, hastens', *patayeiti* 'flies', OInd *pátati ~ patáyati* 'flies', *pātáyati* 'lets fly, lets fall, slings, throws'. Cf. the derivative **pótmos ~ *potmen-*: Grk *πότμος* 'lot, fate', OInd *pátman-* 'flight, path, road'. Widespread and old in IE.

***peth$_a$-** 'fly' (pres. ***péth$_a$tor**). [*IEW* 825 (**pet-*); Wat 50–51 (**petə-*); BK 45 (**$p[^h]at[^h]$-/*$p[^h]ət[^h]$-*)]. Grk *πέταμαι* 'fly', *ποταμός* 'river' (< *'rushing [torrent]'), OInd *patiṣyáti* 'will fly'. A derivative of the previous entry.

***dih$_1$-** 'fly; move swiftly' (pres. ***dih$_1$i̯e/o-**). [*IEW* 187 (**dei̯ə-*)]. OIr *dían* 'fast', Latv *diêt* 'dance', Grk *δίεμαι* 'hasten', *δίω* 'run away, flee; am afraid', *δίομαι* 'chase away; am afraid', *δῑνέω* 'whirl about', OInd *díyati* 'flies, soars'. Widespread and old in IE.

See also WING. [D.Q.A.]

FOAM

***spoh$_x$i-no/eh$_a$-** 'foam'. [*IEW* 1001 (**(s)poimno-*); Wat 64 (**(s)poi-mo-*)]. Lat *spūma* 'foam', *pūmex* 'pumice-stone', OE *fām* 'foam' (> NE *foam*), OHG *feim* 'foam', OPrus *spoayno* (< **spainā*) 'foam (of beer)', Lith *spáinė* 'foam (of beer)', OCS *pěna* 'foam', SC *(s)pjȅna* 'foam', Sogd *pym'kh* 'foam', Oss *fink ~ finkæ* (< **fina-kā-*) 'foam', OInd *phéna-* (*sphéna-*) 'foam'. The reconstruction is uncertain in many details. The alteration between **-m-* and **-n-* in the cognate forms is due to assimilation rather than an original **-mn-*. If Av *spāma-* 'spittle, slime' belongs here, then the underlying form would be **spoh$_x$mos*. The Baltic and Slavic forms with acute accent require a laryngeal. The word may originally derive from a root **speh$_x$i-* 'to spit'. The Indo-Iranian **ph* was generalized from **ph$_x$i-* in other forms. Despite problems of detail, this does appear to be the PIE word for 'foam'.

See also SMOKE; WET. [R.S.P.B.]

FOLLOW

***sek^w-** 'follow' (pres. ***sék^{w}etor**). [*IEW* 896–897 (**sek^u-*); Wat 57 (**sek^w-*); GI 602 (**sek^{ho}-*); Buck 10.52]. OIr *sechithir* (*DIL seichithir*) 'follows', Lat *sequor* 'follow', Lith *sekù* 'follow, keep an eye on', Latv *seku* 'follow', Grk *ἕπομαι* 'follow', Av *hačaitē* 'follows', OInd *sácate* 'follows'. Cf. the widespread derivative **sók^{w}h$_2$ōi* (gen. **s$_e$k^{w}h$_2$i̯ós*) 'follower, companion': ON *seggr* 'follower', OE *secg* 'follower', Av *haxā* 'friend, companion', OInd *sákhā-* 'friend, companion'. Perhaps further connected with ON *sjá* 'see', OE *sēon* 'see' (> NE *see*), OHG *sehan* 'see', Goth *saíhvan* 'see', Alb *shoh* (< **sok^w-eh$_1$-sk̑e/o-*) 'see', from *'follow with the eyes'. Widespread and old in IE.

***u̯ei(h$_x$)-** 'go after'. [*IEW* 1123–1124 (**u̯ei-*); Wat 74 (**wei-*); Buck 10.53]. Lat *vīs* (< **u̯ei-s*) 'thou wantest', Lith *vejù* 'chase, drive, pursue', *vajóju* (< originally iterative *u̯oi̯(h$_x$)eh$_a$-*) 'drive, chase, pursue', OCS *po-vi-nǫti* 'pursue', Grk *ἵεμαι* 'move oneself forward, strive, desire', Hit *wiya-* 'hunt', Av *vayeiti* 'follows, hunts', OInd *véti ~ váyati* 'follows, strives, leads, drives', TochA *wā-* 'will drive, lead', TochB *wāya-* 'will drive, lead' (Toch < **u̯oi̯(h$_x$)eh$_a$-*). Widespread and old in IE.

See also COMPANION. [D.Q.A.]

FOOD

***u̯ór(h$_x$)ĝs** (gen. ***u̯r̥(h$_x$)ĝós**) 'nourishment, strength'. [*IEW* 1169]. Grk *ὀργή* 'natural impulse, mood, anger', *ὀργάω* 'grow ripe, well, am eager', Hit *wargant-* (< **u̯orh$_x$go-* + later *-ant-*) 'fat', Av *varəz-* 'power', *varəzi.čašman-* 'strong-eyed', Sogd *wrz'yw* 'haughty', OInd *ū́rj- ~ ūrjā́-* 'strength, nourishment'. OIr *ferg* 'wrath' may also belong here as a derivative with new *e*-grade. Only Indic seems to require a laryngeal, while Iranian seems to require that one not be present (since *varəz-* cannot be from **u̯r̥h$_x$ĝ-*). The semantic development would be similar to that seen in Greek or Sogdian and on the natural association of being 'swollen' or 'puffed up' with 'anger'.

?*h$_1$edonom 'food'. [*IEW* 287 (**ed-ono-*); Wat 16 (**ed-*); cf. GI 32; BK 418 (**at'-/*ət'-*)]. Grk *ἐδανόν* 'food', Hit *adanna-* 'food', OInd *ádanam* 'food'. Banal and not quite identical derivatives of **h$_1$ed-* 'eat' that may have been made independently in all three stocks.

?*pitus 'food'. [*IEW* 793–794 (**pei-tu-*); Wat 47 (**peiə-*); Buck 5.12; BK 40 (**$p[^h]a$-/*$p[^h]ə$-*)]. OIr *ith* 'grain', OWels *it* 'grain', Lith *piẽtūs* 'meal', OCS *pišta* 'meal'. From **peih$_x$-* 'be fat'. Another word where the resemblances are as likely to be the result of independent creation as common inheritance.

See also BEAN; BERRY; BROTH; CHICK-PEA; COOK; FAT; FEED; GRAIN; MEAT; MILK; PEA; PORRIDGE; STRENGTH; VEGETABLES. [D.Q.A.]

FOOT

***pṓds** (acc. ***pódm̥**, gen. ***pedós**) 'foot'. [*IEW* 790 (**pěd-*); Wat 47 (**ped-*); GI 688 (**p^het'-*); Buck 4.37; BK 44 (**$p[^h]at'$-/*$p[^h]ət'$-*)]. OIr *īs* 'lower part', Lat *pēs* 'foot', ON

fōtr 'foot', OE *fōt* 'foot' (> NE *foot*), OHG *fuoz* 'foot', Goth *fōtus* 'foot', Lith *pādas* 'sole of foot', Rus *pód* 'ground', Alb *për-posh* 'down, under', below, *poshtë* 'down (below)', Grk *πούς* (Doric *πώς*) 'foot', Arm *otn* 'foot', Hit *pata-* 'foot', Av *pad-* 'foot', OInd *pád-* 'foot', TochA *pe* 'foot', TochB *paiyye* 'foot'. This word is essentially pan-IE and clearly the PIE designation for 'foot'.

leh$_a$p-eh$_a$- 'foot, paw'. [*IEW* 679 (**lōpā*); Wat 36 (**lep-*)]. ON *lōfi* 'palm', OHG *laffa* 'palm', Goth *lōfa* 'palm', Lith *lópa* 'paw', Latv *lāpa* 'paw', Rus *lápa* 'paw', Kurdish *lapk* 'paw'. Probably a later word than **pṓds*, normally designating an animal's paw rather than a human foot.

See also Anatomy; Hand; Heel; Hock; Hoof. [D.Q.A.]

FORCE

h$_a$éuges- 'strength'. [*IEW* 84–85 (**au̯eg-*); Wat 4 (**aug-*); cf. GI 53]. Lat *augustus* (< **augus* < **auges-* < **h$_a$éug-* 'increase') 'sacred', Av *aojah-* 'strength', OInd *ójas-* 'strength' (< Proto-Indo-Iranian **aujas-*). Derived from **h$_a$eug-* 'increase'. With rhotacism, this root yielded in Lat *augur*, the priest in charge of the interpretation of divine signs (beside the *flāmen* and the *pontifex*, connected more with the sacrifice and paving the way to ritual acts). The distribution suggests PIE antiquity and the word lies in the semantic sphere of the sacred. Like the Indo-Iranian forms, Lat **auges-* was originally neuter, which Georges Dumézil interpreted as 'the fullness of muscular strength that enables the warrior or the hero to perform his deeds', i.e., the underlying concept would appear to refer to the maximum in accrued potential (rather than kinetic) energy that might be expended. Thus, OInd *ójas-* is linked with physical force in the warrior function (e.g., applying to Indra) and also with the cosmic actions of the Vedic deities; it indicates the increment that results from praise. In the Latin usage, **auges-* denotes the fullness conditioning future action, an action that is not yet manifest, and therefore not yet objectively verified (cf. Lat *in-augur-atiō* 'inaugurate' < 'to hallow with auguries, take omens from the flight of birds'). The field it covers is wider than in Old Indic; it innovates in essence and in sign. The plenitude of power of the *augur* is a gift of the gods (cf. Rōmulus who is endowed with quasi miraculous power in his [First] function as king and priest). Being *augustus* is a religious endowment, the recognition of the fullness of (sacred) power: this is why the title was given to Octavius.

u̯éih$_x$s 'vital force'. [*IEW* 1124 (**u̯ei-*); Wat 74–75 (**weiə-*); cf. GI 391; BK 508 (**wuy-/*woy-*)]. Lat *vīs* 'strength', Grk *ἴς* 'strength', OInd *váyas-* 'force'. From **u̯eih$_x$-* 'be strong'. Distribution indicates PIE status. This word has been related to **u̯ih$_x$rós* 'man'.

i̯éh$_1$g^{w}eh$_a$- 'power, youthful vigor'. [*IEW* 503 (**i̯ēg^{u}ā*); Wat 79 (**yēg^{w}ā-*)]. Lith *jėgà* 'strength, power', Latv *jęga* 'strength, power', Grk *ἥβη* 'youth, vigor, puberty'. A word of the center of the IE world. The Greek form often designates the sex of men or women, in particular *ἐφήβαιον* 'pubic hair' (of a sixteen-year old youth), hence 'ardor', and it also supplies the name of the daughter of Zeus and Hēra, *Hēbē*.

See also Make; Man; Sacred. [E.C.P.]

Further Reading

Dumézil, G. (1969) *Idées romaines*. Paris, NRF-Gallimard, 80–102.

FOREHEAD

h$_2$ent- 'forehead'. [*IEW* 48–50 (**an-s*); Wat 3 (**ant-*); GI 713 (**Hant^h-*); BK 414 (**ħaŋ-t[^{h}]-/*ħəŋ-t[^{h}]-*)]. OIr *étan* 'forehead' (< **antono*), Lat *ante* 'in front of, before', Grk *εἰσάντα* 'right opposite' (**eis* + **antm̥*), *ἀντί* 'in front of, opposite', Hit *hant-* 'face, forehead, front part', OInd *ánti* 'in front of, opposite', *ánta-* 'end, limit', TochA *ānt* 'surface, forehead', TochB *ānte* 'surface, forehead'. Cf. the derivative **h$_2$enti̯o/eh$_a$-*: ON *enni* 'forehead', OHG *andi* 'forehead'; also Lat *antiae* 'hair falling on forehead'. Clearly the PIE word for the 'forehead, front', the forehead being apparently for IE speakers the 'front' par excellence (truer for animals than humans).

bhólom 'forehead'. [*IEW* 118–119 (**bhel-*); Buck 4.205]. OPrus *ballo* 'forehead', Alb *ballë* 'forehead', OInd *bhālam* 'forehead'. Probably from **bhel-* 'shine' and, in age, a word of the center and the east.

See also Anatomy; Face; Head. [D.Q.A.]

FOREIGN LANGUAGE see STAMMER

FOREST *see* TREE

FORGET

mers- 'forget'. [*IEW* 737–738 (**mer-*); Wat 42 (**mers-*); GI 110; Buck 17.32]. OE *mierran* 'disturb, confuse, hinder' (> NE *mar*), OHG *merren* 'give offense, prevent, injure, mar', Goth *marzjan* 'offend', Lith *mirštù* 'forget, overlook', Latv *àis-mìrstu* 'forget', Arm *moṙanam* 'forget', OInd *mŕ̥ṣyate* 'forget, neglect', TochAB *märs-* 'forget'. Cf. the derivative **mórsos*: Lith *mar̃šas* 'oblivion, forgetfulness', Av *Maršavan-* name of a demon, OInd *márṣa-* 'patience'. From **mer-* 'disturb, forget'. The Germanic words are not always considered a part of this group because of the divergence of meaning. With or without them we have a word of PIE date.

See also Remember. [D.Q.A.]

FORK (OF TREE)

ghabhlo/eh$_a$- 'fork, branch of tree'. [*IEW* 409 (**ghabh(o)lo-*); Wat 20 (**ghabholo-*)]. OIr *gabul* 'fork', Wels *gafl* 'fork', OE *gafol* 'fork', OHG *gabala* 'fork'. The word, which appears to be confined to the extreme west of the IE world, would appear to have originally referred to a forked branch which might have a variety of uses. The semantic sphere of the Old Irish word ranges across any forked structure be it tree (gallows, gibbet, beam), part of the landscape (river, valley, paths) and even the bifurcation of the body, e.g., the thighs. When in reference to a tree, probably its original meaning, it describes a main branching (bough from trunk) rather than

something smaller. Although fork-like instruments have been occasionally discovered since the Neolithic and instruments known variously as flesh-forks have been recovered from later prehistoric sites, the actual table utensil (from Lat *furca* 'pitchfork') only emerged in modern Europe (the Romans also had forks) in Italy in the eleventh century and against considerable social resistance slowly spread across Europe achieving widespread popularity only in the eighteenth century.

See also PLANTS; TREE; TREES. [D.Q.A., J.P.M.]

FORT

***pelh$_x$-** 'fort, fortified place'. [*IEW* 799 (**pel-*); Wat 49 (**pelə-*); GI 648 (**p^{h}el-*); Buck 19.15; BK 55 (**p[^{h}]al-/*p[^{h}]əl-*)]. Lith *pilìs* 'fort', castle', Latv *pils* 'fort, castle', Grk *πόλις* ~ *πτόλις* 'city; citadel; state or country', *ἀκρόπολις* 'citadel', OInd *pū́r* 'wall, rampart, palisade', *pū́ram* 'wall, fortress, city'. Possibly belonging here also is Arm *k'ałak'* 'city'. The existence of Grk *πτόλις* and Arm *k'ałak'* suggests that the initial may have been **tp-* rather than just **p-* (**pu̯-* and **pi̯-* have also been suggested). At least a word of the center and east of the IE world.

***bherĝh-** 'height = fort'. [GI 648 (**b^h(e)rĝ^h-*); BK 19 (**burg^y-/*bor-g^y-*)]. OHG *burg* 'fortress', Goth *baúrgs* 'city, town'. Certainly belonging to this are Grk (Homeric) *πύργος* 'town, fortress' and Arm *burgn* 'town', however, both are phonologically unexpected, i.e., the Greek form should have been ***πάρχος* and the Arm ***barjn* and it has been widely assumed that these have borrowed the term from a poorly attested IE language such as Pelasgian which was credited to the inhabitants of Greece before the arrival of the ethno-linguistic Greeks. Cf. also OLat *fortus* 'strong, hard', Lat *fortis* 'strong, hard', OInd *bṛṃháti* 'fortifies', TochA *prākär* 'hard, solid', TochB *prākre* 'hard'. The alternative possibility that this word has been borrowed from a non-IE source is suggested by similar words in Near Eastern languages, e.g., Urartian *burgana-* 'bulwark, fortress', Syriac *būrgā* 'tower'.

dhū́nos** (dhuh$_x$nos**?) 'fort'. [*IEW* 263 (**dheu-*); Wat 15 (**dhūno-*); GI 649 (**d^{h}eun-*); Buck 20.35]. OIr *dūn* 'fort', Wels *din* ~ *dinas* 'fort' (< *'hill'), OE *dūn* 'down, moor, height, hill, mountain' (> NE *down(s)*), MDutch *dūne* 'sandy hill' (borrowed > NE *dune*). Germanic borrowed Celtic **dhūno-* before the phonological changes wrought by Grimm's Law and thus it appeared in Proto-Gmc as **tūna-* and is attested in OE *tūn* 'enclosed place, homestead, village' (> NE *town*), OHG *zun* 'fence, hedge'. A northwesternism confined to Celtic and Germanic. Cf. also Lat *fūnus* 'burial' (?< *'burial hill').

u̯ri-** (u̯rii̯o/eh$_a$** ~ ***u̯rii̯en-**) 'fort'. [*IEW* 1152 (**u̯er-*)]. Thracian *βρία* 'fort', Myc *ri-jo* 'promontory', Grk *ῥίον* 'promontory', TochA *ri* 'town', TochB *riye* 'town'. At least late IE. Possibly from **u̯er-* 'high (place)'.

The various words for fort denote an enclosed place, wall or protected area but the specific appearance of the PIE fort is not recoverable. Old Indic offers the earliest attestations of **pelh$_x$-* in the Vedas and other early Indic literature, the contextual analysis of which suggests that the OInd *pū́r* consisted of one or several concentric ramparts of round or oval plan; it might be built of mud or stone (but not brick), and included a combustible component (gate, wickerwork, prickly shrubs); enclosed wooden sheds as shelters; was stocked with provisions for man and beast; was occupied in times of danger; and probably required repair after the rainy season. Earlier suggestions that the *pū́r* indicated the citadels of the Harappan culture which were destroyed by the Indo-Aryans hold little currency today as the Vedic and other descriptions make a very poor fit with the archaeological evidence for massive rectangular brick citadels and all the other aspects of urbanism attendant in the Indus citadels. It has even been suggested that the Old Indic descriptions are accommodated far better by the evidence of Bronze Age forts in Central Asia, an area which has been regarded as the staging area for later Indo-Aryan movements to the south. In Homeric Greek the term *πόλις* ~ *πτόλις* means 'city', e.g., *πόλιν Τροίην* 'the city of Troy' which in both Homer and in the archaeological record was clearly a fortified citadel. Baltic forts were built of earth and timber palisades.

A fortified enclosure has been argued to be a diagnostic feature of Proto-Indo-European culture which spread through Europe with the expansion of the Indo-Europeans at the end of the Neolithic, i.e. *c* the fifth-fourth millennium BC. This argument, an integral part of the "Kurgan solution" to the Indo-European homeland problem, presumes that the Indo-Europeans were a warlike society who formed military aristocracies over the populations upon whom they imposed themselves. But as the reconstructed forms are ambiguous about the precise construction of the PIE 'fort' it is difficult to read all attestations of enclosing fortifications as evidence for Indo-Europeans. The enclosing of a settlement (permanent or otherwise) by a ditch, earthen bank or palisade is widely known since the Neolithic over much of Eurasia and before any putative Kurgan dispersals, e.g., stone enclosures around Greek settlements of the later Neolithic; timber palisades about Balkan tell settlements of the Neolithic; ditched enclosures surrounding Linear Ware and later settlements across central (Lengyel culture), western (Michelsberg culture) and northern (TRB culture) Europe; causewayed enclosures in the British Isles; concentric ditches around Neolithic settlements of southern Italy; and ditched fortifications surrounding the settlements of the Tripolye culture of the northwest Black Sea region. They are, of course, also known in the staging area of Kurgan expansions, e.g., timber fencing around the site of Dereivka of the Sredny Stog culture of the middle Dnieper region; stone fortifications about some Yamna settlements. Considerable discussion has been expended as to whether some of these enclosures were primarily defensive or were erected to mark territories or ceremonial precincts but evidence from several British Neolithic enclosures clearly indicates that such sites were attacked whatever their initial intention. It has been suggested that the evidence from the Linear Ware culture and its successors in central and western

Europe particularly match the descriptions of forts in Old Indic literature which are similarly curvilinear and concentric. That such constructions might be found in many parts of the world, however, warns against presuming that there must be a genetic connection between the literary evidence and that of Neolithic settlements.

The specific evidence for the spread of Kurgan fortifications rests with the appearance of stone-built citadels that are found from north of the Black Sea, west around the eastern Balkans and on into Anatolia, e.g., Mikhaylovka, Ezero, Troy, which has been presented as a circum-Pontic development under the aegis of IE chieftains. The lexical evidence, however, only posits some form of fortification and not a specifically "stone-built fort" although it may have originally indicated such. The earthen and timber-built fortresses such as Sintashta that appear in the Bronze Age in the Asiatic steppe and forest-steppe may be ancestral to the types of forts indicated in Indo-Aryan literature.

In the west the earliest likely referent to the **dhūnos* found in the Insular Celtic languages are the hillforts which appear by the later Bronze Age (*c* 1200 BC) and continue through the Iron Age and, in some regions, into the early medieval period. A borrowing from Celtic into Germanic during the Later Bronze Age or at the beginning of the Iron Age would predate the commonly accepted dates for the first Germanic sound shift.

See also Ezero Culture; Fence; High; Kurgan Tradition; Troy; Wall. [A.D.V., J.P.M.]

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FORTUNE

****bheh₂gos*** 'apportioner'. [*IEW* 107 (**bhag-*); Wat 5 (**bhag-*); GI 121 (**bʰak'-*); Buck 22.12]. Phryg **Βαγαῖος** (epithet of Zeus), Av *baga-* 'good fortune, share' (borrowed > Slav *bogŭ* 'god'), OInd *bhága-* 'the apportioner', TochA *pāk* 'share, part', TochB *pāke* 'share, part'. From **bhéh₂g-* 'apportion'. The lexical correspondence between the underlying forms is secure to PIE.

****kobom*** 'success'. [*IEW* 610 (**kobo-m*); Wat 32 (**kob-*)]. OIr *cob* 'victory', Gaul *ver-cobius* (personal name), ON *happ* 'luck' (borrowed > NE *hap* 'chance'), OCS *kobĭ* 'divination'. A northwestern word in late IE. From **kob-* 'suit, fit, succeed'.

??*bhr̥tus 'bearing, winning'. [GI 193 (**bʰer-*); Del 72]. Lat *Fortūna* 'the goddess Fortune', OInd *Pr̥thu-* (the first king). This comparison is linguistically insupportable. The name of the Old Indic god is a substantivization of the adjective *pr̥thú-* 'broad, wide, extended' < Indo-Iran **prath-* 'extend, expand'. It reflects a **pl̥thₐ-ú-*, zero-grade of **plethₐ-*, all of which can have nothing to do with the IE root **bher-* that underlies the Latin form *Fortūna* (< zero-grade **bhr̥tu)-*, beside **bhr̥tis*, cf. OIr *breth* 'bearing, winning (< *'carrying off')', Lat *fors* 'blind fate'.

??*dheugh- 'fortune'. [*IEW* 271 (**dheugh-*); Wat 14 (**dheugh-*); GI 486 (**dʰeugʰ-*)]. Grk **Τύχη** 'the goddess Fortune', OInd *kāma-duhā* (wish-granting wonder cow). This comparison between Greek and Old Indic presumes a common IE stem **dheugh-* 'squeeze, milk' and presumes a specific mythic complex of an underlying "wonder cow" that yields enormous quantities of milk which stands as a metaphor for wishes, as indeed is the case with the Old Indic form. But the comparison with Greek cannot stand as the Greek term cannot be separated from the verb *τυγχάνω* 'succeed, happen by fate', which, in turn, is clearly linked with *τεύχω* 'make'. Cognate with the latter are OIr *dúal* 'convenient', OE *dohtig* 'competent, good, valorous' (> NE *doughty*), OHG *toug* 'be useful', *tuht* 'value, power', Goth *daug* 'it is useful, profitable', Lith *daũg* 'much', Rus *dužij* 'strong, robust, powerful'. On the other hand, the second element of the Old Indic compound *kāma-duhā* is obviously derived from the Indo-Iranian root **dogh-* 'milk', whose connection with the Greek term remains most problematic, especially as it would imply the improbable semantic evolution: 'touch' (< *'obtain [by fate]') > 'press' > 'milk'.

Fortune Gods

Unlike "Fortune" as "chance", which appears to be rather consistently represented by a series of goddesses, deities associated with the assignment of either wealth or the correct apportionment of goods tend to be personified as males. In the *R̥gveda*, it is *Bhaga* 'portion' who is responsible for insuring the just distribution of things (*RV* 7.41.2). In the Indian epic, the *Mahābhārata*, Bhaga is reflected in the blind Dhr̥tarāṣtra who dispenses goods as blind fortune. According to Georges Dumézil, Bhaga is closely associated with Mitra who determines that people get their proper share. The dualism reflected in Mitra and Varuṇa's realms of activities is carried over into that of their assistants where Varuṇa is assisted by Aṁśa who is concerned with the distribution of fate rather than wealth. The actual god of wealth in the sense of merely 'goods, riches' is Vasu.

In Iranian religion very little is left of the Old Indic Bhaga except the name *baga* which is generalized to mean 'god' but a hint of his more specific duties may be found in the Avestan Aši which means 'redistribution'.

The Iranians (as Scythians, Sarmatians, Alans) were in direct contact with the early Slavs in the steppe regions north of the Black Sea and one of the terms possibly adopted from Iranian into Slavic was *baga* which is reflected in the OCS *bogŭ* 'god' (and the other Slavic languages). In addition to the word, the semantic sphere of this deity was also passed

on (if not inherited) and the chronicles recount the erection of various images outside Kiev in 980 AD which included *Dažĭbogŭ* (< **dādhi-bhagos*) 'give fortune' and *Stribogŭ* '?scatter (or ?father) fortune/god'.

The closest structural equivalent to the Indo-Iranian deities in Roman religion was the god Terminus who was charged with the equitable distribution of goods among people (Ovid *Fasti* 2.642).

Fortune Goddesses

Various IE groups also possessed a goddess of fortune or fate. Although certain common themes are in evidence, they are not so similar as to require a common origin nor is there any linguistic evidence upon which to posit a PIE goddess of fortune. Moreover, many of the thematic comparisons are with divinities who filled other functions. Among the most representative are the Latin Fortūna, the Baltic goddesses Laimė and Laima, the Indic Lakṣmī, and perhaps the Iranian Spēnta Ārmaiti.

Fortūna, the Roman goddess of fortune, wealth, and abundance (Greek Tychē) is portrayed holding a cornucopia filled with all good things (e.g., Plutarch, *Moralia* 318 A-B). To the Romans, she was fickle, giving her gifts to a person one day, and withholding them the next. *Fortūna Prīmigenia*, 'first-born Fortūna', is the subject of many Roman inscriptions and the recipient of dedicatory gifts. In Rome, fortune and fate were distinguished, as Fortūna and the Parcae; in other mythologies, such as the Baltic, the Germanic, and the Indic, the two aspects were synchrētized into one goddess.

The Baltic goddess of fate and destiny, associated with the day and the sky, was called Laimė in Lithuanian and Laima in Latvian. As a goddess of fortune and destiny her functions were similar to those of the Iranian Ārmaiti, Roman Fortūna and the Parcae, Greek Tychē and the Moirai, Germanic Norns, and Indic Lakṣmī. Along with Dievas, the sky-god, Laima determined who was to live and who was to die. Laima aided women in childbirth, and she determined the course which the child's life would take. Like the Roman Fortūna, she could grant an unhappy fate, but she was not decried for her "fickleness" to the same extent as Fortūna. Further, she was a more personal goddess than Fortūna; she could be embodied in mortals, while the remote Fortūna always remained an immortal. At times the Laimas are viewed as multiple goddesses (cf. the Parcae, Moirai, and Norns); each person is given a Laima, but not all recognize her. Laima sometimes appears as a bird-maiden. While Laima was goddess of life and the sky, her counterpart, Lauma, was goddess of the earth and the underworld, a shape-changer who was similar to a witch.

Lakṣmī was the Indic goddess of fortune, beauty, and love. The term *lakṣmī* originally indicated a 'token' or 'sign'; the personification, Lakṣmī, did not exist in the *Ṛgveda*. In the *Atharvaveda*, the term indicated 'luck', good or bad; in the *Mahābhārata*, it indicated 'beauty', 'splendor', 'loveliness', and also the goddess, the personification of beauty, fortune, and love. Śrī Lakṣmī was composed of all good things, and the Hindu gods therefore desired her. Agni therefore took her food, Soma her royal power, Varuṇa her universal sovereignty, Mitra her noble rank, Indra her strength, Bṛhaspati her holy lustre, Savitṛ her dominion, Pūṣan her wealth, Sarasvatī her prosperity, and Tváṣṭṛ the builder, took her beautiful forms. Lakṣmī was thus the embodiment of the cornucopia; through her came all good things. (Cf. the Indic Devī who was given all good things by the Indic deities.) In this respect Lakṣmī synchretizes the functions of two Greco-Roman goddesses, Fortūna with her cornucopia, and Pandōrā, the 'gift of everything', or the 'all-endowed'. Lakṣmī had a son, Kāmadeva, a Love god similar to Erōs/Cupid. Further, Lakṣmī was born from the foam of the primeval sea of milk as it was churned by the gods and the Asuras, much as the Greek Aphroditē (Roman Venus) was born from the foam of the sea. Lakṣmī represented the two poles of fortune: Lakṣmī as good luck, and Alakṣmī, 'not-Lakṣmī', as misfortune. (The Slavic Sreča and Nesreča are functionally equivalent goddesses.) It was understood that the one goddess had two polar forms. Lakṣmī was married to the god Viṣṇu; she was his *śakti*, his energizing consort. One of her epiphanies was as Rukmiṇī, the principal wife of Lord Kṛṣṇa, the avatar of Viṣṇu in the *Mahābhārata*.

Spənta Ārmaiti, 'holy devotion', was a goddess of the Iranian Zoroastrian religion, considered to be an aspect of the 'wise Lord', Ahura Mazdāh, rather than an autonomous deity. Ārmaiti is invoked in several *Yasnas*, dating from *c* 660 to 583 BC. She granted wisdom, and she taught the path of truth. She personified the earth and the fruits of the land, and through her destiny was invoked; she is thus comparable to destiny goddesses such as the Roman Fortūna. She granted wisdom and advice about the spirit (*Yasna* 31.12) as well as great strength (*Yasna* 33.12), and she was born androgenetically of Ahura Mazdāh. She may thus be compared to the Greek wisdom and warrior goddess Athēnē, who was born androgenetically from the head of Zeus.

See also Love Goddess. [E.C.P., M.R.D.]

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FORWARD *see* BEFORE

FOX

u̯l(o)p- '(red) fox (*Vulpes vulpes*)' ?+ 'corsac fox (*Vulpes corsac*)'. [*IEW* 1179 (**u̯l̥p-*); Wat 78 (**wl̥p-ē-*); GI 432-433 (**wl̥pʰ-*); Buck 3.74]. Lat *volpēs* 'fox', *volpēcula* 'little fox', Lith *lãpė* 'fox, vixen', *vilpišỹs* 'wild cat', Latv *lapsa* 'fox', Grk *ἀλώπηξ ~ ἀλωπός* 'fox', Arm *ałuēs* 'fox', Hit *ulip(pa)na-* 'wolf', Av *urupis* 'dog', *raopi-* 'fox, jackal', MPers *rōpās* 'fox', Khot *rrūvāsa-* 'jackal', OInd *lopāśá-* 'jackal, fox'. Widespread and obviously old in IE. However, reconstructing the PIE form of

this word is extremely difficult. The attested forms would appear to presuppose a bewildering number of PIE antecedents: *ulopē- (Baltic), *uolpē- (Latin), *l(o)upi- (Iranian), *loupēk̂- (Indo-Iranian), *a-lōpēk̂- (Greek, Armenian), *ulpik̂- (Baltic). Clearly this word has been subject to phonological deformation, perhaps because of some sort of cultural taboo, in many, if not all, traditions in which it is attested.

The distribution of the fox is widespread across Eurasia (Atlantic to Urals), including the Near East, and south to central India. Although it might be presumed that the fur of the fox was highly prized, most Neolithic and Copper Age sites yield the remains of less than five individuals which suggests chance encounters or vermin extermination rather than selective trapping. Even in areas of northern Europe such as Russia where the beaver was hunted in great quantity, the fox is only marginally attested. More relevant to some of the theories concerning the IE homeland, fox-hunting is attested to some degree in the Usatovo culture (Usatovo had eighteen foxes, Mayaki had fifteen) and in the Yamna culture (Mikhaylovka with twelve foxes). Fox remains have also been recovered from Yamna burials and may include the teeth (pendants), bones, and on several occasions, the mandibles of a fox. The fox is also known from the Neolithic of Central Asia.

See also MAMMALS; TAIL; WOLF. [D.Q.A., J.P.M.]

FRAMEWORK

***k̂red-** (*k̂reh₁d-?) 'framework, beams'. [*IEW* 617–618 (*kred-); Wat 32 (*kred-)]. ON *hrōt* 'roof, attic', OE *hrōst* (< *k̂rōd-s-to-) 'woodwork of roof, roost, attic' (> NE *roost*), OHG *rōst* 'pyre', MHG *rāz* ~ *rāze* 'honeycomb; pyre', Goth *hrōt* 'roof, house', OCS *krada* (< *k̂rōdeh$_a$ with a centum development of the initial palatal stop—perhaps a very early borrowing from Germanic or some other western IE stock) 'funeral pile', Shughni *x̌āδ* (< Proto-Iranian *srād(y)a-) 'summer pen for cattle'. Possibly belonging here, and with the same centum development of the initial palatal stop, are such Baltic words such as OPrus *creslan* 'armchair', Lith *krēslas* 'chair', Latv *kręsls* 'chair' (if < *krēd-st-lo-). With or without the Baltic words we have evidence for a term which referred to structures or substructures of interlocking wood and which is without any known root relations. Widespread and old in IE.

See also HOUSE; POST. [A.D.V., D.Q.A.]

FREE *see* PEOPLE

FREEMAN

***h₄erós** ~ ***h₄erios** 'member of one's own (ethnic) group, peer, freeman; (Indo-Iranian) Aryan'. [*IEW* 67 (*ario-?); Wat 3 (*aryo-); GI 657 (*ar(y)o-); BK 387 (*ħar-/*ħər-), 429 (*ar-/*ər-)]. From *h₄erós comes Hit *arā-* 'member of one's own group, peer, companion, friend', with further derivatives *arāwa-* 'free from', *arāwahh-* 'set free from', *arawanni-* 'free; freeman', Lycian *arawa-* 'free (from)', *arus-* 'citizens'; from *h₄erios: OIr *aire* 'freeman (whether commoner or noble); noble (as distinct from commoner)' (the latter meaning may be rather from *prios, a derivative of 'first'; the Gaulish personal names with *Ario-*, e.g., *Ario-mānus*, presumably contain 'noble'), Av *airya-* 'Aryan', (i.e., 'Iranian' in the larger sense), OPers *ariya-* 'Aryan', Iran *Alani* (< *aryana) (the name of an Iranian group whose descendants are the Ossetes, one of whose subdivisions is the *Iron* [< *aryana-]), *aryānām* (gen. pl.) 'of the Aryans' (> MPers *Īrān*), OInd *arí-* 'attached to, faithful; a faithful devoted person; ± kinsman' (and distinct from the homophonous *arí-* 'enemy'), *aryá-* 'kind, favorable; attached to, true, devoted', *ā́rya-* 'Aryan; one who is faithful to the Vedic religion'. From *h₄er- 'put together'. Oswald Szemerényi's suggestion that it derives from an Ugaritic word meaning 'kinsmen' is hardly compelling.

Clearly supposed in the original meaning is an emphasis on in-group status as distinguished from the status of the outsider, particularly those outsiders forcibly incorporated into the group as slaves. In Anatolian the base word has come to emphasize the personal relationship between individuals while the derivatives continue the more general focus on social status, as remains the case in Old Irish. In Indo-Iranian, presumably because the *un*free were typically captives taken from other (ethnic) groups, the word has taken on a more purely ethnic meaning. Less likely, but still possible, is the assumption that this word was originally an ethnonym, the self-designation of (at least parts of) the Indo-European people, that was revalued as a term of social status.

An independent derivative of the same verbal root is *h$_a$éro/eh$_a$- 'fitting' seen in Hit *āra* '(what is) fitting, right, proper, *fas*', *natta āra* 'it is not right, it is forbidden/illegal, *nefas*', Av *arəm* 'fittingly, enough', *ārmaiti* (< *ara-mati-) 'right thought', OInd *áram* 'fittingly, enough', *arā́-mati* 'right thought, devotion', *evā́ra* 'truly fitting, just right'.

See also BOOTY; FRIEND; KINSHIP; MASTER; PEOPLE; PHYSICAL ANTHROPOLOGY. [D.Q.A.]

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FRESH

***ken-** 'fresh'. [*IEW* 563–564 (*ken-); Wat 29 (*ken-); Buck 14.13]. MIr *cana* ~ *cano* 'young animal (of wolf, dog, etc.)', Wels *cenau* 'young dog or wolf', Lat *recēns* (if *rē* + *cēns*) 'fresh, just arrived', OCS *začęti* 'begin', Grk *καινός* 'young', OInd *kanīna-* 'young'. The sometimes cited Germanic examples such as OE *hindema* 'the last (newest)', OHG *hintana* 'behind',

Goth *hindana* 'from beyond' are more likely from **k̂ei-* 'here'. Even rejecting the weaker elements (the Celtic and Old Indic forms have been alternatively connected with a root **kan-* 'small'), the broad geographical distribution points to probable PIE status.

See also NUMBER. [J.C.S.]

FRIEND

****prih₍x₎ós*** 'of one's own', thus 'dear' and 'free'. [*IEW* 844 (**pri̯i̯o-*); Wat 53 (**priy-o-*); Buck 16.28]. Wels *rhydd* 'free', ON *frī* 'beloved, spouse', OE *frēo* 'woman', *frēod* 'love', *frēo* 'free' (> NE *free*), OHG *frī* 'free', Goth *freis* 'free', Av *frya-* 'dear', OInd *priyá-* 'dear', *priyā́* 'spouse', *priyátā* 'desire'. Also the name of the Germanic goddess ON *Frigg*, OE *Frīg*, OHG *Frija*. It has been argued that **prih₍x₎ós* 'of one's own' may be a derivative of **pēr* 'house' (attested in Hit *pēr* 'house', thus 'of one's household' although this word may be of non-IE origin). Attested in the west, center and east of the IE world, this word is surely of PIE date. In Celtic and Germanic, the term means 'free' which points to parallel socio-political organization though borrowing from Celtic to Germanic has also been suggested. As is the case of Lat *līber* 'free' and Grk ἐλεύθερος 'free' (< '*of lawful birth'), it indicates the legal position of an individual who is a full-fledged member of the ethnic community in contrast to outsiders or people subdued into servitude by war. The specific meaning probably developed originally among members of a particular social class as a mutual term of affection.

****kehₐros ~ *kh̥ₐros*** 'friendly'. [*IEW* 515 (**kā-ro-*); Wat 26 (**kā-ro-*); Buck 16.28]. OIr *cara* 'friend', Wels *câr* 'friend', Lat *cārus* 'dear', ON *hōrr* 'adulterer', OE *hōr* 'adulterer', *hōre* 'whore' (> NE *whore*), OHG *huor* 'adulterer', *huora* 'whore', Goth *hōrs* 'whore', Latv *kārs* 'greedy'. Parallel derivatives of **kéhₐr̥* (gen. **kh̥ₐrós*) 'love', itself a derivative of **kehₐ-* 'to love'.

****k̂éiu̯os ~ *k̂iu̯ós*** 'belonging to the household' (hence > 'friendly, intimate, dear'). [*IEW* 539–540 (**k̂ei-u̯o-*); Wat 27-28 (**kei-wo-*); Buck 7.122]. Lat *cīvis* 'citizen' (*i*-stem on the analogy of *hostis* 'host'), Osc *ceus* 'citizen', ON *hjōn ~ hjūn* 'one of the household; (pl.) married couple', *hȳski* 'household, family', OE *hīwen ~ hīw-rǣden ~ hīwisc* 'household', *hīwan* (pl.) 'members of a household', *hīwcūþ* 'domestic, familiar', OHG *hīun* 'married couple, parents; family members', *hī(w)o* 'husband', *hī(w)a* 'wife', *hīwiski* 'family', Goth *heiwa-frauja* 'master of the household; host', Latv *siēva* 'wife', OInd *śéva-* 'dear, intimate', *śivá-* 'kind, friendly, auspicious, dear' (whence *Śiva-* 'Shiva'). Lurking behind these words is either a root noun **k̂éi-* or a *u*-stem **k̂eiu-/*k̂iu-* 'household, village as social unit' from **k̂ei-* 'lie', either from *'± those that sleep together' or, since **k̂ei- + *h₁en* may mean 'depend upon', from *'± collective dependants'. These words are widespread and old in IE. The change of meaning from 'member of the household' to 'dear' is possibly paralleled by **prih₍x₎ós* 'dear' from **pēr* 'house'. The OInd *śéva-* 'dear, intimate' and *śivá-* 'kind, friendly, auspicious, dear' emphasize the sentimental relations between individuals or groups, unlike *sákhā-* 'companion'. Similar notions of intimacy lie behind the meanings 'family, spouse' seen in Germanic and Baltic. On the other hand, the particular semantic development that led to the Italic meaning may be explained by the use of this term as a form of mutual address among members of the same community, cf. the use of 'comrade' among citizens of the former Soviet Union.

See also COMPANION; FREEMAN; HOUSE; LOVE; VILLAGE. [E.C.P.]

FRIGHTEN

****ĝheis-*** 'frighten'. [*IEW* 427 (**gheis-*); Wat 21 (**gheis-*)]. ON *geiska-* (in compound *geiska-fullr*) 'fear', Goth (past part.) *us-gaisiþs* 'frightened', Av *zaēša-* 'horrible'; as **ĝhoisd-* (<**ĝheisd-*): OE *gǣstan* 'frighten', *gāst* 'spirit, ghost' (> NE *ghost*), OHG *geist* 'spirit, ghost', OInd *héḍa-* 'anger'. Both the root and the extended form can be reconstructed to PIE with a moderate degree of confidence.

****terg^w-*** 'scare'. [*IEW* 1076–1077 (**terg^u̯-*)]. Wels *tarfu* 'hunt', Lat *torvus* 'piercing, wild (of the eyes)', ON *þjarka* 'reproach, scold', OE *þracian* 'fear, feel dread, shudder', Grk ταρβέω 'scare', OInd *tárjati ~ tárjate* 'threatens, scolds'. Sufficiently widespread to guarantee its PIE status.

See also FEAR. [M.N., D.Q.A.]

FROG

****u̯orh₍x₎d-i/o-*** 'frog'. [Fraenkel 1200]. Lith *varlė̃* (with secondary *-l-*) 'frog', Latv *var̂de* 'frog', Arm *gort* 'frog'. At least a word of the center of the IE world. A homophonous word for 'wart' (**u̯orh₍x₎do-*) is reflected in Germanic (e.g., OE *wearte* 'wart' [> NE *wart*]), Baltic (e.g. Latv *ap-vir̂de* 'abscess'), Slavic (e.g. Rus *véred* 'abscess, ulcer'), and Iranian (NPers *balū* 'wart'), suggesting that the popular connection between warts and the handling of frogs is of great antiquity. Alternatively, it may be that the frog derives its designation from its skin, the texture of which may resemble a series of warts.

See also ANIMAL; SKIN DISEASE; SPAWN. [D.Q.A.]

FROM *see* AWAY

FROST *see* ICE

FRUIT *see* BERRY

FULL

****pl̥h₁nós*** 'full'. [*IEW* 799–800 (**pl̥-no-*); GI 684 (**p^hl̥H-(no-)*); Wat 48 (**pelə-*); Buck 13.21; BK 54 (**p[^h]al-/*p[^h]əl-*)]. OIr *lān* 'full', OWels *laun* 'full', ON *fullr* 'full', OE *full* 'full' (> NE *full*); OHG *fol* 'full', Goth *fulls* 'full', Lith *pilnas* 'full', OCS *plŭnŭ* 'full', Av *pərəna-* 'filled', OInd *pūrṇá-* 'full', TochB *pällew* (< **pl̥no-u̯ent-*) 'full (of moon)'. Cf. the similarly constructed **pleh₁nó-* 'full': OIr *līnaim* (a denominative verb presupposing a **līn* 'full') 'fill', Lat *plēnus* 'full', Arm *li* 'full', Av *frāna-* 'filling', OInd *prāṇá-* 'full'.

See also ABUNDANT; EMPTY; FILL. [D.Q.A.]

FURROW

pṛk̂eh$_a$- 'furrow'. [*IEW* 821 (**perk̂-*); Wat 50 (**perk-*); GI 595 (**p^{h}erk̂^{h}-*); Buck 8.212]. Wels *rhych* 'furrow', Gaul *rica* 'furrow', Lat *porca* 'ridge between furrows', ON *for* 'furrow', OE *furh* 'furrow' (> NE *furrow*), OHG *furuh* 'furrow'. Cf. also Lith *pra-peršа* 'unfrozen patch of water in ice-covered surface', *pra-paršas* 'ditch', OInd *párśāna-* 'chasm, rift'. The word for the specifically agricultural 'furrow' would appear to have been confined to the western edge of the IE world. Cf. also PIE **pórk̂os* 'pig' (as one who creates a furrow-like track while rooting in the earth).

l(o)iseh$_a$- 'furrow'. [*IEW* 671 (**loisā*); Wat 36 (**leis-*)]. Lat *līra* 'furrow', *dē-līrus* 'insane, off the track', OE *līste* 'fringe, border' (> NE *list*), OHG *leisa* 'track', *līsta* 'border, hem', OPrus *lyso* 'field bed', Lith *lýsė* 'garden bed', OCS *lěcha* 'field bed, furrow', Rus *lekhá* 'field bed'. A technical agricultural term found only in the west and center of the IE world. From **leis-* 'leave a trace on the ground'.

?*u̯oru̯os 'furrow'. [BK 489 (**wur^y-/*wor^y-*)]. Lat *urvāre* 'mark out a boundary with a furrow', Osc *uruvú* 'boundary-ditch', Myc *wo-wo* 'boundary-ditch', Grk *ὄρος* (Ionic *οὖρος*) 'boundary', (pl.) *οὐροί* 'trench or channel for hauling up or launching ships', *οὖρον* 'limit, range (of area that could be plowed by a mule in a day); boundaries'. Lat *urvum* 'the curved part of a plow' is usually included here but the semantic distance invites caution. Though reflected in only two stocks this word still seems a likely candidate for PIE status, at least in the west and center of the IE world.

See BORDER; PLOW. [D.Q.A.]

FURTHER

h$_1$eti 'and, in addition'. [*IEW* 344 (**eti-*); Wat 17 (**eti-*)]. Gaul *eti* 'also, further', Lat *et* 'and also', OHG *it(a)*, *ith-* prefix indicating repetition, addition, Goth *iþ* 'but', (perhaps) Messapic *-θι* 'and', Grk *ἔτι* 'yet, further', Phryg *ετι-* 'again', Av *aiti-* 'over', OInd *áti* 'over, towards'. PIE status.

See also AND; FAR. [A.D.V.]

·G·

GALL

***ĝhóln-** ~ ***ĝhéln-** (Latin, Germanic) ~ ***ĝhólos** (Greek, Avestan) 'gall'. [*IEW* 429 (**ĝhel-*); Wat 21 (**ghel-*); GI 715 (*$\hat{g}^{h}$*el-*)]. Lat *fel* (with dialect *f-* rather than expected **h-*) 'gall, anger', ON *gall* 'gall', OE *gealla* 'gall' (> NE *gall*), OHG *galla* 'gall', Grk *χόλος* ~ *χολή* 'gall, anger', Av *zāra-* 'gall'. Both attested forms are independent derivatives of **ĝhel-* 'yellow, brown', and were, at best, regionalisms in late PIE. OCS *zlŭčĭ* ~ *žlŭčĭ* 'bile', Rus *žëlčĭ* 'bile' also presumably belong here, presupposing a late PIE **ĝhl̥kis*, but the palatalized initial in the Russian and second Old Church Slavonic form are not altogether well-explained.

See also Anatomy; Yellow. [D.Q.A.]

GAMEBIRD

***teter-** 'gamebird'. [*IEW* 1079 (**tet(e)r-*); GI 459 (*$t^{h}et^{h}$*(e)r-*)]. MIr *tethra* 'hooded crow', ON *þiðurr* 'capercaille', OPrus *tatarwis* 'capercaille', Lith *tetervà* ~ *tetervas* 'capercaille', Latv *teteris* 'capercaille', OCS *tetrěvĭ* 'pheasant', Rus *téterev* 'capercaille', Grk *τετράων* 'capercaille', NPers *tadharv* 'pheasant', OInd *tittirá-* 'partridge'. Arm *tetrak* 'turtle-dove' is a loan word. These are all large and well-fleshed game birds. The capercaille is a northern bird while the pheasant is also found farther south, in the sub-Caucasus and northern Iran and India. The Irish cognate, the 'hooded crow' is normally of little interest to hunters and diners. The Arm *tetrak* 'turtle dove' is little hunted though it does have food value.

See also Birds; Quail. [J.A.C.G.]

GARLIC *see* VEGETABLES

GATHER

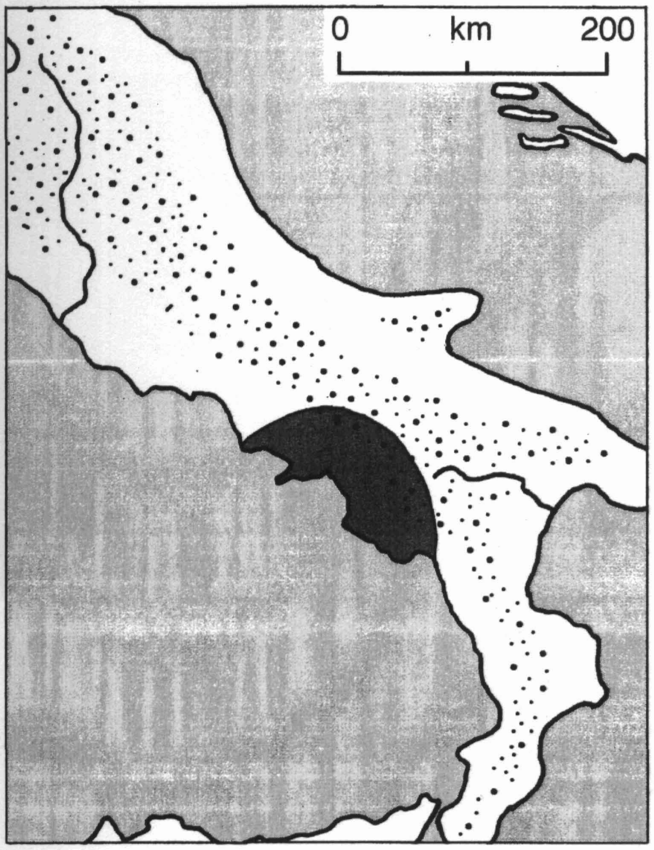
***ger-** 'gather; herd, crowd'. [*IEW* 382–383 (**ger-*); Wat 19 (**ger-*); BK 286 (**k'ar-/*k'ər-*)]. MIr *graig* 'horse herd', Lat *grex* (< **gre-g-*) 'herd, company', Lith *gur̃gulas* 'thickening, knot', OCS *grŭstĭ* 'handful', Grk *ἀγείρω* 'gather', *γάργαρα* 'crowd'. Middle Irish, Latin, Lithuanian and Greek all show a reduplicated nominal form, suggesting that it may be reconstructed to the proto-language as 'herd, crowd'. The precise relationship between the nominal formation and Grk *ἀγείρω* is unclear; the initial *a-* may, however, reflect an old prefixal *h_1*n̥-* 'in'.

***kr(e)u-bh-** 'gather, amass'. [cf. *IEW* 616–617 (**krā(u)-*); Wat 32 (**krāu-*); Buck 12.27; VW 235]. Grk *κρύπτω* 'hide', TochA *krop-* 'gather, amass, herd', TochB *kraup-* 'gather, amass; herd'. The geographical distribution of this word is a strong argument for PIE status. With another enlargement, we have PIE **kr(e)u-*h_x*-* in Lith *kráuju* 'pile up, stack', *krūvà* 'pile', Latv *kr̨aũt* 'heap up, load', OCS *kryja* 'cover, hide', *krovŭ* 'roof'. OIr *crō* 'enclosure, shed', Wels *crau* 'shed' have been sometimes adduced here but they have also been associated with **kropos* 'roof' which is the more likely connection. Also dubious are attempts to link the forms cited here with the words for 'round', e.g., OIr *cruinn* 'round', Lat *curvus*.

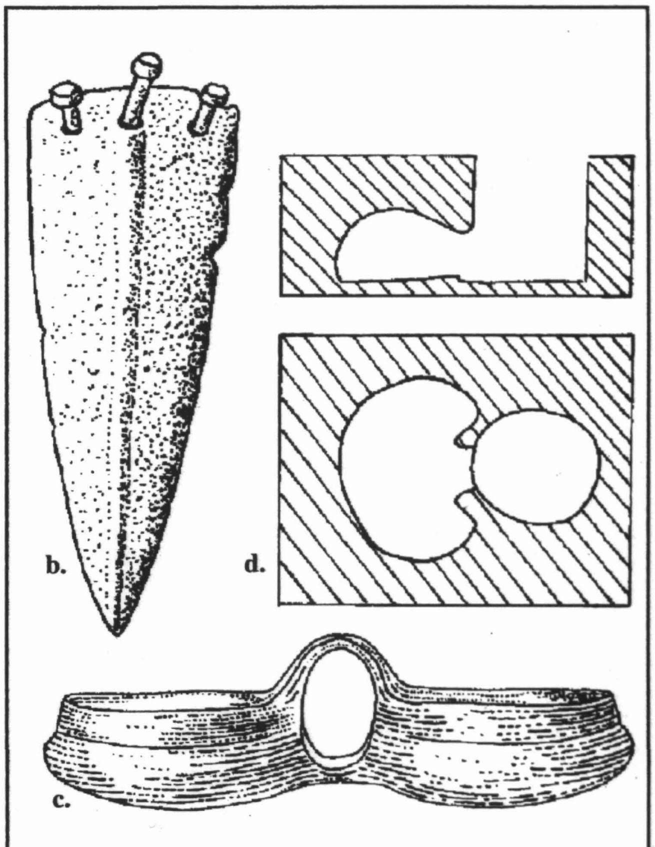
See also Assembly; Herd; Roof. [M.N.]

GAUDO CULTURE

Gaudo is a Copper or early Bronze Age culture (c 3500–2700 BC) of south-west Italy. Sites are almost entirely limited to burials in rock-cut tombs. These consist of an entrance shaft (which would later be blocked up with stone rubble) leading to a kidney-shaped chamber which might contain



Gaudo a. Distribution of the Gaudo culture.



Gaudo b. Bronze dagger; c. Jointed-bowl; d. Gaudo grave.

two to twenty-five burials, accompanied by pots, flint daggers (sometimes copper), and arrowheads. Both males and females were found in the graves and there is some evidence for social stratification, e.g., the Chieftain's Tomb at Mirabello Eclano where a single male burial was accompanied by three copper daggers, two flint daggers, forty-two flint arrowheads, pottery and other stone tools. A dog was buried at the foot of the deceased. The physical type of those buried in the Gaudo tombs is more round-headed than what has been presumed to be the native Mediterranean population and this has led to the suggestion that the Gaudo culture was a product of immigrants. These have been variously derived from the eastern Mediterranean (Anatolia) or north or east of the Alps where they have been identified as an early wave of IE-speaking groups. Much of current opinion dismisses the concept of foreign intrusions and seeks the explanation for any correspondences between the Gaudo and other non-Italian cultures through exchange relations. If so, some connection between the very peculiar "joined bowls" of the Gaudo culture and distant parallels in Anatolia are among the more problematic. As "exchange" relationships may well disguise small movements of people, one cannot entirely rule out some form of foreign intrusions into Italy. The pattern of such a movement, at least one seen emanating from the eastern Mediterranean, would not provide much of a "fit" against the linguistic evidence for no one, including those who specifically advocate an IE homeland in Anatolia, suggest that Indo-Europeans entered Italy in the fourth millennium BC from the eastern Mediterranean by way of the sea. Other than satisfying, perhaps, a few of the proponents who derive the Etruscans from Anatolia (and who also believe, against the common opinion, that Etruscan was an IE language), such a model linking Italy and Anatolia does not explain the historically attested Indo-Europeans of Italy. Intrusions from the north, however, might accord better with interstock contacts between Italic and both Celtic and presumably the IE languages of the Balkans. But as the Gaudo culture is the most southerly of the major Copper Age cultures of Italy, one might require that some form of intrusion be established for the other Italian cultures as well.

See also Italic Languages; Remedello Culture; Rinaldone Culture. [J.P.M.]

GERMANIC LANGUAGES

On their entrance into history in the last centuries before Christ, Germanic-speaking peoples inhabited what is now southern Norway and Sweden and a broad strip of the North European plain from Flanders to the Vistula. It is the consensus among linguists that in the middle of the first millennium BC their continental holdings had been more restricted,

comprising southern Sweden, Denmark, Schleswig-Holstein, Mecklenburg and immediately adjacent areas. In the western part of their area their expansion had probably come at the expense of Celtic-speaking peoples. Other groups, whether Indo-European or not Indo-European, that may have been in the area that was later Germanic vanished without any certain linguistic trace though some such precursor language(s) may have been the source of that part of the Germanic vocabulary not shared with other IE groups. Some 28% of the core vocabulary of Germanic has been estimated as of non-IE origin.

Linguistically Germanic-speakers were divided into three groups: North Germanic in Norway and Sweden, East Germanic from approximately the Oder eastward, and West Germanic to the west of the Oder (including Denmark).

North Germanic speakers, originally at home in southern Sweden and Norway, moved into Denmark very late in the prehistoric period and repopulated an area that was largely depopulated by the movement of the original West Germanic speakers to the British Isles. At a somewhat later period (800–1050 AD), as Vikings, their raids were the scourge of both western Europe (Vikings largely from Norway and Denmark) and eastern Europe (largely from Sweden). North Germanic speakers settled in large numbers in the British Isles, Normandy and Russia. In all of these places they were sooner or later assimilated linguistically to the surrounding populations. In England, however, they were sufficiently numerous to have left a permanent linguistic mark on their earlier West Germanic cousins, the English.

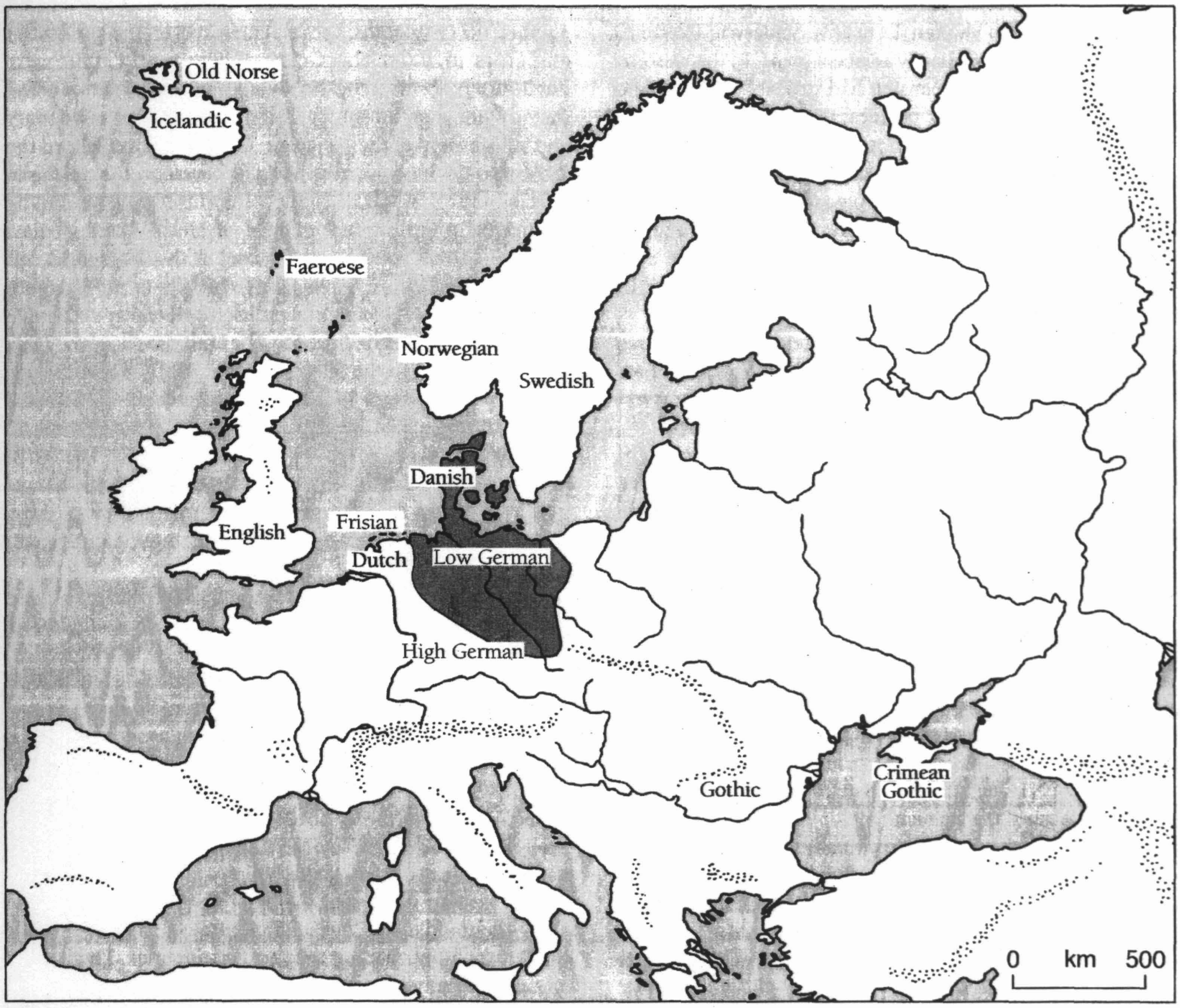
The earliest linguistic remains usually attributed to North Germanic speakers are brief inscriptions in a special Runic alphabet, found mostly in Norway and Denmark but also in scattered locations elsewhere. These inscriptions are in some cases datable as early as the third century AD. The language represented on these early inscriptions is sufficiently archaic that it is not even specially North Germanic and may be taken as the common ancestor of West and North Germanic and only little differentiated from the East Germanic that appears a couple of centuries later in Gothic. Classical North Germanic, Old Norse, appears, written in the Latin alphabet, in the twelfth century. North Germanic is divided into two groups on a rough east-west basis. In the east we have Swedish and Danish. In the west we have the very conservative Icelandic and also Norwegian (heavily influenced by Danish) and Faroese.

East Germanic speakers were the first to trouble the later Roman Empire in a major way. A number of East Germanic tribal groups wandered through Europe: Vandals, Burgundians, etc. However, of these it was the Goths who left us with the only linguistic record of East Germanic. The Goths moved first from the lower Vistula to what is now the Ukraine. Pressed in their new home by the onslaught on the Huns, they moved into the Balkans and then into western Europe. One group, the Visigoths, ended up in Spain, where they formed the basis of the post-Roman state there and another, the Ostrogoths, became caretakers for the last Roman emperors in Italy. The Goths of Spain and Italy were linguistically absorbed by the Romance-speakers surrounding them by the eighth century. The chief Christian missionary and later bishop of the Visigoths, one Wulfila, translated the Bible into Gothic while the Visigoths were in the northeast Balkans and it is this translation that forms the overwhelming portion of our linguistic record of Gothic, and of East Germanic as a whole. A small subset of the Ostrogoths, left behind in the Crimea, emerge linguistically in the sixteenth century in the form of a short wordlist (some eighty-six words) compiled by Oguier de Busbecq, the ambassador of the Holy Roman Emperor to the Sublime Porte. The Crimean Gothic speakers disappeared linguistically soon after de Busbecq recorded his vocabulary.

The West Germanic groups were also expansive though in general they wandered less far than the East Germanic groups did. The eastern flank of the West Germanic group, those living roughly in the former East Germany, moved to the south and west, ending up in southern Germany, Austria, and Switzerland. Because in medieval and modern times these West Germanic speakers lived in the more elevated parts of the German-speaking areas their speech is collectively called High German. Various High German dialects are attested in written sources from the eighth century AD. Old High German (OHG) is dated to *c* 750–1050; Middle High German (MHG) to *c* 1050–1350. Modern (standard) or New High German (NHG), which dates from *c* 1350 onwards, is based on certain dialects of the northeast of the High German area, dialects brought to prominence by the imperial chancery in Prague and Luther's translation of the Bible.

The western portion of the West Germanic group, those along the middle and lower Rhine, moved so as to straddle the Rhine and further, on into northern France. The leading group politically of these western West Germanic speakers were the Franks who gave their name to France and in the person of their greatest king, Charlemagne, founded the Holy Roman Empire. The Frankish (Franconian) dialects of the lower Rhine, rather strongly influenced by the emerging High German standard, gave rise ultimately to Dutch (with its South African outlier, Afrikaans). North of the Franks, in modern-day Lower Saxony and Schleswig-Holstein were the Saxons. Dialects from this area are collectively known as Low German and, while now reduced to the status of a local patois, they formed in medieval and modern times the dominant written language of northern Germany and were extremely influential in Scandinavia.

The West Germanic speakers originally living in Denmark, Schleswig, and along the North Sea coast provided the Germanic settlers who invaded Britain in the fifth century in the confusion following the withdrawal of Roman troops from the island. The Angles (from Angeln in Schleswig), the Saxons, the Jutes (from Jutland), and their neighbors formed the bulk of the new non-Celtic population of Great Britain whose language eventually came to be called English, attested in



Germanic Distribution of the Germanic languages. Shaded area marks the Jastorf culture which is closely associated with the Germanic homeland.

written documents from the eighth century. The earliest period, Old English (OE), dates to *c* 700–1100 BC. It is followed by Middle English (ME) which runs *c* 1100–1450 and then New English (NE; *c* 1450–). English's closest relative is Frisian, the speakers of coastal West Germanic who were "left behind" as it were by the migration of the ancestors of the English.

Description

From the morphological point of view Germanic shows both conservative and innovative tendencies. The noun preserves five of the eight cases (with traces of a sixth) reconstructed for Proto-Indo-European. It also preserves all three PIE genders but only two of the PIE numbers (singular and plural). The dual, save in personal pronouns, is lost and the distribution of dual and plural personal pronouns breaks down in the Middle Ages. The adjective shows a similar system of inflection to that of the noun but it has, in addition, an innovative distinction between indefinite ("strong") and definite ("weak") forms. The indefinite forms represent the inherited PIE endings while the definite represent *n*-stem extensions of the underlying adjectives. The distinction of strong and weak adjectives persists in all Germanic languages except English (which lost the distinction in Middle English, traces only remain in Chaucer's language), though the distinction is very much reduced except in German and

Icelandic. It is of interest to note that neighboring Baltic and Slavic have also created new definite forms for adjectives, but they have created them from very different morphological material.

The verb has been handled considerably less conservatively. The dual has been lost (except in Gothic) as has the medio-passives (again save in Gothic where it exists in the present only). The rich late PIE set of tense and aspect distinctions has been reduced to a present and a past. The latter, when inherited, mostly from the PIE perfect with vowel change (e.g., NE *sing* vs. *sang*). Distinctive for Germanic is the innovative past tense in **-d-* for (originally) derived verbs (e.g., NE *tow* vs *towed*). Germanic preserves the distinction among indicative, imperative, and optative (> Germanic subjunctive) but has lost the PIE subjunctive. The Proto-Germanic verbal system is largely intact in German and Icelandic but much reduced in all other contemporary languages, including English. However, English and most other Germanic languages have innovated in the creation of a new set of compound tenses such as the English perfect and progressive tenses.

Germanic is distinguished from other Indo-European groups by the manner of articulation of the PIE obstruents. Where Indic, for instance, has *t*, *d*, and *dh*, and Greek has *t*, *d*, and *th* for what is conventionally reconstructed as PIE **t*, **d*, and **dh*, Proto-Germanic normally had **θ*, **t*, and **d*, and likewise for all places of articulation. Thus where PIE had voiceless stops, Proto-Germanic had voiceless continuants; where PIE had voiced stops, Proto-Germanic had voiceless stops, and where PIE had voiced aspirated, Proto-Germanic had simple voiced stops (probably originally voiced continuants, the various Germanic languages differ on this point). This relationship is usually called "Grimm's Law" (after Jakob Grimm [1785-1863] its discoverer) or the First Germanic Sound Shift and it is the single most dramatic characteristic by which Germanic is distinguished from other IE stocks. Apparent exceptions to Grimm's Law, particularly cases where PIE **p*, **t*, and **k* became Proto-Germanic **b*, **d*, and **g* rather than the expected **f*, **θ*, and **x*, were explained by the Danish linguist Karl Verner ([1846-1896] hence "Verner's Law") as reflecting the influence of PIE stress (itself nowhere preserved in Germanic). His explanation says that PIE voiceless stops gave Proto-Germanic voiceless continuants, as Grimm had stated, when initial or after the PIE stressed vowel. However, they gave voiced continuants (or voiced stops) when non-initial and before the PIE stress. Thus PIE **ph$_a$tér* 'father' gives Goth *fadar* while PIE **bhréh$_a$ṭēr* 'brother' gives Goth *brōþar*. (The identity of the medial consonants in these two words in contemporary English is the result of later changes in English only.) The fact that cases which were irregular by Grimm's Law (such as the Germanic word for 'brother') could be seen as regular when Verner's Law was added to the description was perhaps the single most important building block to the notion that phonological change was exceptionless (if one knew all the rules) and that in turn made the reconstruction of unattested languages, such as PIE, a genuine possibility. Germanic is also characterized by the development of all vocalic resonants, whether or not followed by a laryngeal, to **u* followed by a resonant. Thus **r(h$_x$)*, etc., give Proto-Germanic **ur*, etc.

High German is distinguished from the other Germanic languages, including Low German, its closest relative within Germanic, by a second consonant shift which is very reminiscent of the changes described in Grimm's Law. Proto-Germanic voiceless stops become voiceless continuants after a long vowel or diphthong within a word and voiceless affricates elsewhere (in most varieties of High German Proto-Gmc **k* remains a *k* except after a long vowel), Proto-Germanic voiced stops become voiceless stops (though both **g* and **b* usually remain in most varieties of High German), while Proto-Germanic voiced continuants became voiced stops. Thus a PIE **dheubos* 'deep' gave Proto-Gmc **deupa-* (OE *dēop*, Goth *diups*) which in Old High German is *tiof* or PIE **tréi̯es* 'three', gave Proto-Gmc **þrī* (OE *þrīe*, Goth *þreis*) which in Old High German is *drī*.

The rather radical changes, particularly the phonological changes subsumed under Grimm's and Verner's laws, that separate Germanic from its sister stocks and the large number of Germanic words that do not seem to have good IE etymologies, have led a number of investigators to assume that Proto-Germanic was heavily affected by a linguistic substrate (that is, a population of non-Indo-European speakers who were linguistically assimilated by the pre-Germanic speakers who were themselves a relatively small proportion of the resultant population of Proto-Germanic speakers). Probably the best evidence for such a substrate is the large number of apparently non-Indo-European words relating to the sea, sea products, and ships. The assumption is that the pre-Germanic speakers, coming from somewhere in the interior of Europe, first became acquainted with the sea somewhere on the Baltic and borrowed the words related to the sea from a more original population which was subsequently linguistically assimilated to the Indo-European newcomers. Since the linguistic substrate(s) disappeared without a trace other than these putative loanwords, their presence cannot be independently confirmed. In any case, it is important to point out that Celtic loanwords into Germanic during the latter half of the first millennium BC undergo the first Germanic soundshift and thus the attribution of the phonological changes subsumed under the shift to some substrate which must have disappeared a thousand or perhaps two thousand years before is impossible.

Within Indo-European Germanic is most closely related to Baltic and Slavic. With them it shares many vocabulary items, as well as the morphological peculiarity of certain case endings in **-m-*, where other Indo-European languages have **-bh-* (e.g., Goth *wulfam*, Lith *vilkàms*, OCS *vlŭkomŭ*, but OInd *vṛkebhyaḥ*, all 'to the wolves'), and the phonological peculiarity of *o*-stem nouns with mobile stress (nominative and accusative on the first syllable, other cases on the last

Proto-Indo-European and Germanic Phonological Correspondences

PIE		Gmc	PIE	ON	OE	Goth	OHG
*p	>	f ~ B	*ph$_a$tḗr* 'father'	*faðir*	*fæder*	*fadar*	*fater*
*b	>	p	*dheubos* 'deep'	*djūpr*	*dēop*	*diups*	*tiof*
*bh	>	b	*bhere/o-* 'carry'	*bera*	*beran*	*baíran*	*beran*
*t	>	~ d	*tuh$_x$* 'thou'	*þū*	*þū*	*þu*	*t(h)u*
*d	>	t	*deiu̯ós* 'god'	*Tȳr*	*Tīg*	*tyz* (name of rune)	*Ziu* 'Mars'
*dh	>	d	*dhurom* 'door'	*dyrr* (pl.)	*dor*	*daúr*	*tor*
*k̂	>	h	*k̂m̥tóm* 'hundred'	*hundrað*	*hund(red)*	*hunda* (pl.)	*hunt*
*ĝ	>	k	*ĝenu* 'jaw, cheek'	*kinn*	*cinn*	*kinnus*	*chinne*
*ĝh	>	g	*ĝheud-* 'pour'	*gjōta*	*gēotan*	*giutan*	*giozzan*
*k	>	h	*kap-* 'seize, hold'	*hafa*	*habban*	*haban*	*habēn*
*g	>	k	*h$_a$eug-* 'increase'	*auka*	*ēacian*	*aukan*	*ouhhōn*
*gh	>	g	*ghordhos* 'enclosure'	*garðr*	*geard*	*gards*	*gart*
*kʷ	>	hw	*kʷód* 'what'	*hvat*	*hwæt*	*ƕa*	*(h)waz*
*gʷ	>	kw	*gʷéneh$_a$-n-* 'woman'	*kona*	*cwene*	*qinō*	*quen*
*gʷh	>	gw ~ w	*gʷhn̥-to/eh$_a$-* 'striking'	*gunnr* ~ *guðr*	*gūþ*	–	*gund-*
			gʷhermos 'warm'	*varmr*	*wearm*	*warmjan*	*warm*
*s	>	s	*seh$_1$-* 'sow'	*sā*	*sāwan*	*saian*	*sā(w)en*
*i̯	>	y	*i̯ugóm* 'yoke'	*ok*	*geoc*	*juk*	*joh*
*u̯	>	w	*u̯éh$_1$ntos* 'wind'	*vindr*	*wind*	*winds*	*wint*
*m	>	m	*meh$_a$tēr* 'mother'	*mōðir*	*mōdor*	–	*muoter*
*n	>	n	*nū* 'now'	*nū*	*nū*	*nu*	*nū*
*l	>	l	*lese/o-* 'pick out'	*lesa*	*lesan*	*lisan*	*lesen*
*r	>	r	*h$_1$roudhos* 'red'	*rauðr*	*rēad*	*rauþs*	*rōt*
*m̥	>	um	*k̂m̥tóm* 'hundred'	*hundrað*	*hund(red)*	*hunda* (pl.)	*hunt*
*n̥	>	un	*dn̥gʷheh$_a$-n-* 'tongue'	*tunga*	*tunge*	*tuggō*	*zunga*
*l̥	>	ul	*u̯l̥kʷos* 'wolf'	*ulfr*	*wulf*	*wulfs*	*wolf*
*r̥	>	ur	*u̯r̥dhom* 'word'	*orð*	*word*	*waúrd*	*wort*
*i	>	i	*u̯idmés* 'we know'	*vitom*	*witom*	*witum*	*wizzo*
*ī	>	ī	*suih$_x$nos* 'swine'	*svīn*	*swīn*	*swein*	*swīn*
*e	>	e	*h$_1$ek̂u̯os* 'horse'	*jōr*	*eoh*	*aíƕa-*	OSax *ehu-*
*ē	>	ē	*seh$_1$-* 'sow'	*sā*	*sāwan*	*saian*	*sā(w)en*
*a	>	a	*h$_a$eĝros* 'field'	*akr*	*æcer*	*akrs*	*achar*
*ā	>	ā	*bhreh$_a$tēr* 'brother'	*brōðir*	*brōðor*	*brōþar*	*bruoder*
*o	>	a	*ghordhos* 'enclosure'	*garðr*	*geard*	*gards*	*gart*
*ō	>	ā	*dhoh$_1$mos* 'setting down'	*dōmr*	*dōm*	*dōms*	*tuom*
*u	>	u	*dhug(h$_a$)tēr* 'daughter'	*dōttir*	*dohtor*	*daúhtar*	*tohter*
*ū	>	ū	*nū* 'now'	*nū*	*nū*	*nu*	*nū*
*h$_1$	>	ø	*h$_1$ésti* 'is'	*es*	*is*	*ist*	*ist*
*h$_2$	>	ø	*h$_2$óu̯is* 'sheep'	*ær*	*ēowu*	*awistr*	*ouwi*
*h$_3$	>	ø	*h$_3$okʷ-on-* 'eye'	*auga*	*ēage*	*augō*	*ouga*
*h$_4$	>	ø	*h$_4$órĝhos* '(sexually) mounted'	*argr*	*earg*	–	*arg*

syllable). This latter feature is witnessed for instance by ON *hestr* 'stallion' but OE *hengist* 'stallion', the former reflecting Proto-Gmc **hánxista-* while the latter reflects (with Verner's Law) **hangistá-*. Later Germanic seems to have come in contact with pre-Italic and later yet, not long before both groups enter recorded history, with Celtic.

The accompanying phonological chart puts OHG last in the list of representative languages, so as to make clearer the operation of this second sound shift (in those words which were affected by it).

Origins

The earliest ethnographer to leave an account of the ancient Germans, Julius Caesar describing his Gaulish campaign in *c* 58–50 BC, positioned the Germans to the east of the Rhine. By this time the Germanic peoples and language had clearly developed as an independent stock but not for long if the estimates based on the close affinity of the earliest Germanic texts to reconstructed Proto-Germanic is anything to go by. The inscriptional evidence and loan words between Celtic and Germanic such as **īsarna-* 'iron' suggest that the Germanic

stock may have formed quite late, the first sound shift often being set to around 500 BC. In short, the formation of Proto-Germanic is generally set to the Iron Age of western Europe.

Caesar's positioning of the early Germans on the east bank of the Rhine has long been suspected to have been a product of his political agenda and, in archaeological terms at least, the Rhine has been usually dismissed as an important cultural border at this time. Rejection of Caesar's assertion has prompted archaeologists to seek the early Germans in a more northerly culture. Traditionally, the starting point for locating the earliest historical Germans is the Jastorf culture of Denmark and north and central Germany as far south as the Aller and the Weser. The problem with this identification, one which is based to a large extent on establishing an archaeological dichotomy between La Tène Celts and Jastorf Germans, is that it does not account for the peoples in between, some of whom at least should have also belonged to the early Germans if the positioning of classical authors is anything to go by. On the basis of this approach, the Jastorf culture would be a major component of the early Germans but this ethno-linguistic group would also find other archaeological reflections in various Iron Age cultures around its periphery (e.g., the Hunsrück-Eifel culture of the middle Rhine), including La Tène groups which might variously be described as final Celtic or early Germanic, the two being indistinguishable.

Any attempt to retreat further into the prehistoric period carries us beyond the temporal definition of Proto-Germanic suggested by the linguists into the vague realm of northwest Indo-European or late Indo-European. It is widely held that there is considerable continuity in both the archaeological and physical anthropological record of northern Europe from the earliest appearance of the Germans back into the Bronze Age. The Jastorf culture, for example, is regarded as a direct continuation of the local northern Bronze Age after the introduction of some iron metallurgy. The line of continuity extends throughout the entire course of the Bronze Age down to the transition between the middle and later Neolithic in south Scandinavia, i.e., between the earlier TRB culture and that of the Corded Ware horizon. The appearance of the Corded Ware culture (*c* 3200 BC) in this region is associated by many archaeologists with the earliest appearance of the Indo-Europeans in the north European plain. There is evidence for a new physical type in some regions at this time although the archaeological evidence for discontinuity is very hotly debated. As the Corded Ware horizon also expands over territories that would appear ancestral to both Baltic and Slavic ethnogenesis, it might also provide a reflection of the cultural sphere in which the Germanic-Baltic-Slavic isoglosses arose. The temporal definition of these isoglosses, however, might have been achieved later and as the Corded Ware horizon does extend south as far as Switzerland, it may also have included distant ancestors of the Celtic and Italic stocks. In this way, the Corded Ware horizon would have provided the linguistic arena for the earliest of those cognate sets described in this *Encyclopedia* as northwest Indo-European.

See also Corded Ware Culture; Indo-European Languages; Jastorf Culture. [D.Q.A., J.P.M.]

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GIFT *see* EXCHANGE

GIRD

i̯éh₃s- 'gird'. [*IEW* 513 (**i̯ō[u]s-*); Wat 79 (**yōs-*); Gl 610; Buck 6.57; BK 472 (**ya-/*yə-*)]. Lith *júosiu* 'gird, girdle, buckle on (a sword)' (Lith 3rd sg. *juosti*), OCS *po-jašǫ* 'gird',

Alb *n-gjesh* 'gird, fasten on, buckle on', Grk *ζώννῡμι* 'gird', Av *yā̊ŋhayeiti* 'girds'. The root-noun appears in Av *yāh-* 'belt' and, extended by the addition of the thematic vowel, in OCS *po-jasŭ* 'belt'. Nominal derivatives include: (1) **i̯e$h_3$sm-* 'belt' in Lith *juosmuõ* 'waist', Grk *ζῶμα* 'belt'; (2) **i̯eh_3s(m)no/eh_2-* 'belt' in RusCS *pa-jasni* (< **i̯e$h_3$sni-*) 'belt', Grk *ζώνη* 'belt', OInd *rásnā* (crossed with *raśanā́* 'belt'); and **i̯e$h_3$sto/eh_2-* 'belt' in Lith *júosta* 'girdle, belt; sash, scarf', Grk *ζωστός* 'belt', Av *yāstō* 'belt'. The wide distribution of both verb and certain nominal derivatives makes this lexeme a strong candidate for PIE status. The nominal derivatives provide a name for one of the very few specific types of PIE clothing, one moreover with strong cultural connotations for both men and women. For the latter we might particularly note the string skirt, widely traceable in Europe from the Upper Palaeolithic and subsequent periods. It appears to have symbolized the nubile status of a woman, and was probably a badge of considerable honor. Distant, and a bit confused, echoes of the string skirt are probably to be found in Book 14 of the *Iliad* where Hēra sets out to seduce Zeus and belts on 'a girdle crafted with a hundred tassels'. As an accoutrement over other clothes, it survives to this day as part of the woman's folk costume of many parts of the Balkans. Non-fringed belts were, and in some IE cultures still are, important in men's costumes as a sign of virility.

***gherdh-** 'gird, surround'. [*IEW* 444 (**ĝherdh- ~ *gherdh-*); Wat 22 (**gher-*); BK 303 (**g^{y}ir-/*g^{y}er-*)]. The underlying verb is preserved only in Germanic: ON *gyrða* 'gird', *gjǫrð ~ gyrðill* 'girdle', OE *gyrdan* 'gird' (> NE *gird*), *gyrdel* 'girdle' (> NE *girdle*), OHG *gurten* 'gird', *gurtil(a)* 'girdle', MHG *gurt* 'girdle', Goth *bi-gairdan* 'gird', *gairda* 'girdle'. What demonstrates that this word is a retention in Germanic, rather than an innovation, is the practically pan-IE distribution of the related root-noun **ghórdhs* 'fence, enclosure'.

***kenk-** 'gird, wrap around'. [*IEW* 565 (**kenk-*); Wat 29 (**kenk-*); GI 85 (**k^{h}en-k^h-*); Buck 6.57]. Lat *cingō* 'gird, surround', Lith *kinkaũ* 'bridle a horse, harness', perhaps Grk (Hesychius) *κάκαλον* (if < **kn̥kalo-*) 'wall' (if < *'[that] which surrounds'), OInd *káñcate* 'bind', *kañcuka-* 'cuirass, jacket, skin of snake, husk', *kāñcī-* 'girdle'. Certainly of PIE date, though probably more general in meaning than just 'gird'.

?*kerd- 'belt'. OIr *cris* 'belt', Wels *gwregys* 'belt, girdle' (< Celt **kr̥d-su-*), Rus *čéres* 'leather belt' (< Slav *kerd-so-*); cf. OIr *fo-cridigedar* (< **upo-kr̥d-*) 'girds'. A possible Celtic-Slavic isogloss.

The belt may be associated with the attire of both males and females in IE tradition, e.g., Hēra's belt alluded to above but also the belt of Hēraklēs (Herodotus 4) which Scythes, the ancestor of the Iranian Scythians, must be able to put on in order to claim his inheritance. That the belt itself was invested with certain symbolic power is evident, for example, from the anthropomorphic stelae of both western Europe and the Pontic-Caspian region during the late Neolithic and early Bronze Age. In the Pontic-Caspian region we encounter the image of individuals in which the sole garment depicted is the belt while sexual organs and breasts clearly indicate that the individual is otherwise naked.

See also **Fence**; **Stelae**. [D.Q.A., E. J.W.B.]

GIRL *see* DAUGHTER

GIVE

***$h_a$ei-** 'give'. [*IEW* 10–11 (**ai-*); Wat 1 (**ai-*); GI 656 (**ai̯-*)]. Lat *ae-mulus* 'emulator, rival', Grk *αἴνυμαι* 'take, seize', *αἶσα* 'portion, fate', Hit *pai* (< **pe-ai*) 'give', Av *aēta-* 'fitting portion, penalty', TochA *e-* 'give', TochB *ai-* 'give'. Whether or not the Latin form belongs here is debatable. The inclusion of the Greek verbal form here has been challenged on the basis of its semantics but it is frequently the case in IE that words meaning 'give' or 'take' often develop the opposite meaning.

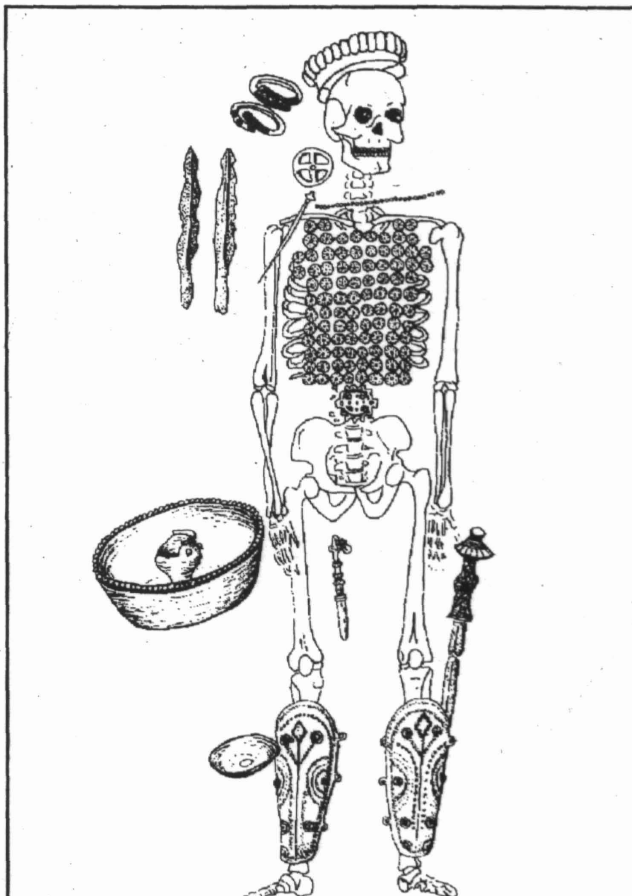
***deh_3-** 'give'. [*IEW* 223–225 (**dō-*); Wat 15 (**dō-*); GI 37 (**t'ō-*); Buck 11.21; BK 121 (**t'uw-/*t'ow-*)]. Lat *dō* 'give', OPrus *dāst* 'give', Lith *dúoti* 'give', Latv *duôt* 'give', OCS *dati* 'give', Grk *δίδωμι* 'give', Arm *tam* 'give', Hit *dā-* 'take', Av *dadāiti* 'gives', OInd *dádāti* 'gives'. This word may be unproblematically reconstructed to PIE. The reduplicated present stem, seen in Greek and Indic and also Latin compounds such as *reddō* (< **re-didō*) 'give back', is often posited for the proto-language as well; this assumption requires, however, the further assumption that in the majority of the daughter languages the reduplicated syllable subsequently vanished without a trace. The root also supplies the base of **deh_3tēr* 'giver': OCS *datelji* 'giver', Grk *δώτωρ* 'giver', Av *dātar-* 'giver', OInd *dā́tar-* 'giver, giving'. These may be inherited or parallel formations based on a relatively productive suffix.

***$h_{2/3}$enk̂-** 'bestow'. [GI 818 (**onk^{h}o-*); cf. Puhvel 3, 292]. The underlying verb is preserved only in Hit *henkzi* 'bestows' but cf. the widespread derivative **$h_{2/3}$ónk̂os* 'what is bestowed': Grk *ὄγκος* 'burden', Arm (pl.) *hunjkʿ* 'harvest', Hit *henkan-* 'fate, death', Av *ąsa-* 'group of followers', OInd *áṃśa-* 'portion, share'. Though sparsely attested, the geographical distribution of those attestations strongly suggests PIE status for this word. With the loss of laryngeals, the word has become phonologically confused with **$h_1$nek̂-* 'attain'. It was apparently loaned from Iranian into Finno-Ugric, e.g., Finnish *osa* 'part, portion', Veps *oza* 'luck, portion'.

It is a striking fact that a number of IE roots which can be reconstructed with the meaning 'give' surface in some daughter languages with the meaning 'take' as **$h_a$ei-* and **deh_3-* indicate. The root **nem-* 'take', in turn, develops the meaning 'give' in Grk *νέμω* 'distribute'. Several motivations for this striking semantic development may be suggested. Benveniste proposes that one motivation for the shift lies in the ambiguity inherent in the physical gesture of giving, comparing NE *take* with *take to*. More interestingly, Benveniste notes that the vocabulary of giving is also closely bound up with the concept of hospitality in PIE society. In this relationship, embodied in Lat *hostis* 'stranger, foreigner' or Grk *ξένος*



Glasinac a. Area of the Glasinac culture (associated with the prehistoric Illyrians).



Glasinac b. Reconstructed appearance of a warrior from a burial at Ilijaka II, Bosnia.

'foreigner', there is a sort of reciprocal gift-giving known as potlatch in anthropology. In this relationship, one person is bound to another by the social obligation of a gift or service; repaying this gift would then create an obligation in the first giver to respond in kind, resulting in the circulation of wealth throughout the society. As Calvert Watkins notes, this relationship was manifested in many social bonds in PIE society: host-guest, patron-poet, and lord-client, etc. The semantic shifts between 'give' and 'take' could then be seen as the consequence of focusing on one side or another of these reciprocal exchanges.

See also EXCHANGE; TAKE. [M.N., D.Q.A.]

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GLAND

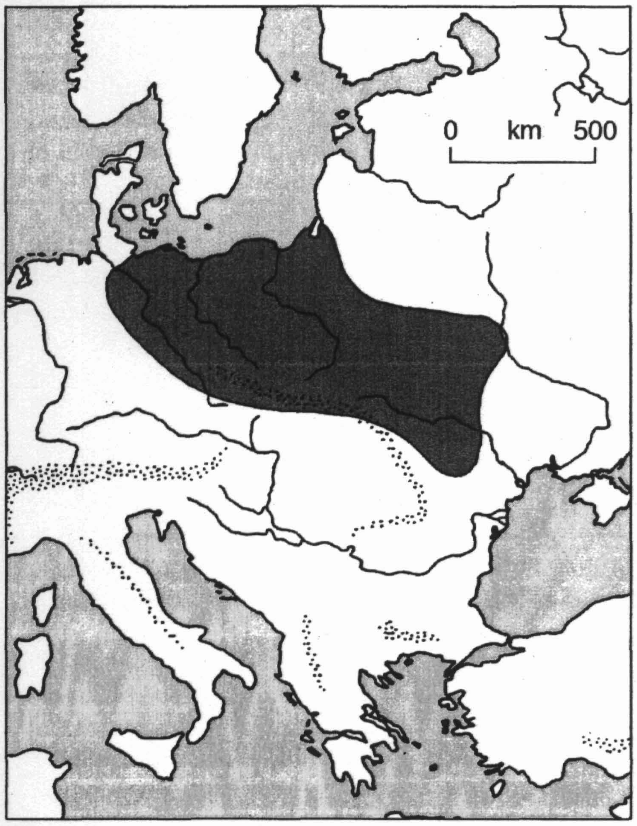
ŋgʷén- '± (swollen) gland'. [*IEW* 319 (**engu̯-*)]. Lat *inguen* 'groin, swelling in region of groin', Grk *ἀδήν* 'gland'. Related are NIce *økkr* 'swelling, tumor', OHG *ankweiz* 'pustules'. Largely but not exclusively "western" in its attestation. A reasonably good candidate for late PIE status.

ghelĝheh$_a$- 'gland'. [*IEW* 435 (**ghelĝh-*)]. OCS *žlěza* 'gland', Rus *železà* 'gland', Arm *gełj-k'* 'gland'. This word would seem to have been restricted to certain "central" dialects in late PIE times.

See also ANATOMY. [D.Q.A.]

GLASINAC CULTURE

Glasinac refers to the Bronze and Iron Age culture of Bosnia, especially noted for its substantial cemeteries on the Glasinac plateau, southeast of Sarajevo, that include an estimated 20,000 graves. Material culture associated with the Glasinac culture is found also in neighboring areas, including eastern Serbia and northern Albania. The evidence for settlement in this region is poorly known hilltop defensive sites. The primary evidence for the culture derives from its cemeteries. They involve multiple inhumation burials, surrounded by a stone circle about 10 m across, and covered by an earthen tumulus. These tumulus graves have produced very rich grave goods of more distant central European origin and the frequent



Globular Amphora a. Distribution of the Globular Amphora culture.

presence of weapons has been interpreted as evidence of a military aristocracy. By the sixth and fifth centuries BC cremation becomes more common. The main floruit of the culture would appear to have been from the eighth to fourth centuries BC after which the number of burials falls dramatically. The Glasinac culture would appear to reflect the local evolution of societies that later emerged as the historically-attested Illyrians, the major IE group of the east Adriatic.

See also **Illyrian Language**. [J.P.M.]

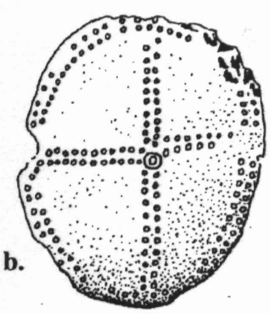
GLIDE

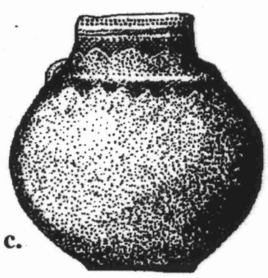
dhreĝ- 'glide, pull (something) across'. [*IEW* 273 (**dhreĝ-*); Wat 15 (**dhreg-*)]. ON *drāk* 'stripe', Lith *drežóti* 'tear apart', OInd *dhrájati* 'move, go, fly, swoop', *dhrāj-* 'power to glide or move'. Attested as it is on the margins of the IE world, it must surely be old in IE.

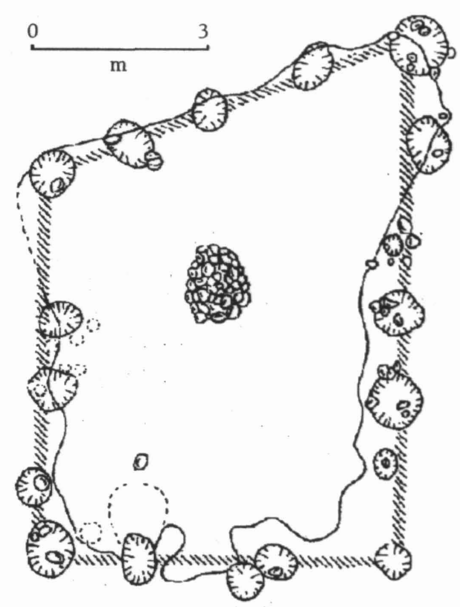
See also **Pull**. [D.Q.A.]

GLOBULAR AMPHORA CULTURE

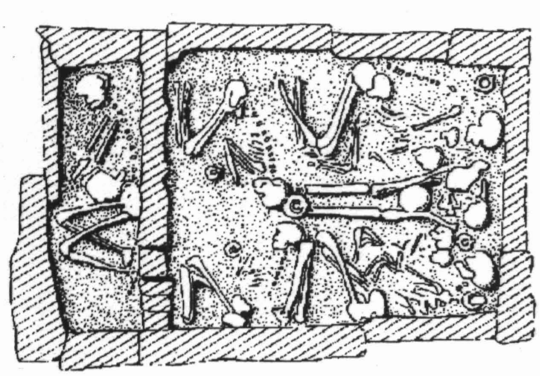
The Globular Amphora (German *Kugelamphoren*) culture was distributed broadly across central and eastern Europe, from the Elbe to the middle Dnieper, *c* 3400–2800 BC. This area was previously the territory of the TRB culture which certainly contributed to the formation of its Copper Age successor and in some areas was contemporary with the earlier phases of the Globular Amphora culture. Generally, Globular Amphora is much better known from its burials than its settlements although roughly rectangular surface dwellings


b.

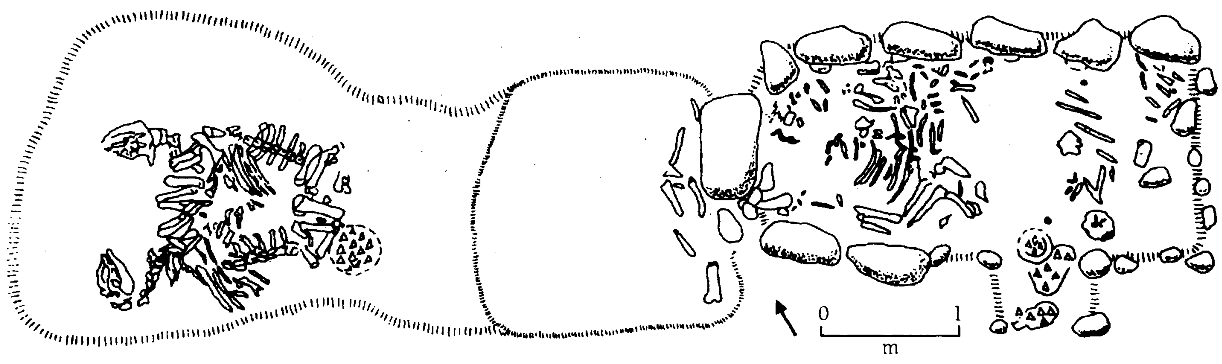

c.



e.


d.

Globular Amphora b. Amber "sun disc"; c. Globular amphora; d. Cist with multiple burials (the central burial is a male accompanied by two women and children, and two adolescents at feet with a separate burial in adjoining chamber); e. House plan from Poland.



Globular Amphora f. Human burial and paired ox burials.

as well as round semi-subterranean huts are known from Poland. Normally, these occur singly or with several together suggesting a settlement pattern based on single families or several living together. At least one component in the settlement system would appear to have been relatively transitory.

Subsistence appears to have been based on stock-breeding—cattle, pig, sheep/goat, dog and some horse; red deer, hare, birds and fish were also exploited. There is a tendency for pig to predominate among the earlier periods of the Globular Amphora culture which is in marked distinction to the earlier cattle-based economies of the TRB culture although there are also Globular Amphora sites that have also yielded a predominance of cattle remains. Among the plant remains are wheat (*Triticum dicoccum* and *T. spelta*), barley and pea.

The culture takes its name from its distinctive globular vessels with two to four small handles mounted on a constricted neck, which is decorated in a variety of motifs; flint flat axes are frequently found in burials. The burials themselves were generally inhumations in a pit or stone cist. They were laid on their right or left sides in the flexed position with heads to the east. The stone cists are sometimes covered with incised decoration, among which the figure of a composite bow has been identified. Along with several amphorae and other vessels, grave goods included flint axes, knives, arrowheads, amber beads, and a variety of objects fashioned from bone. The lower jaw of a pig or boar tusk provided characteristic animal offerings. The burial of complete oxen is also known. Wooden remains from one site were interpreted as remains of a shield.

The Globular Amphora culture arises in discussions of Indo-European origins and expansions because of its apparently mobile economy (or at least transitory settlement), presence of (presumably) domestic horse, and distinctive pottery. The ceramics have been sometimes associated with that of the Maykop culture of the north Caucasus and the Lower Mikhaylovka Group of the middle Dnieper and some form of direct connection between the Caucasus and the north European plain has been controversially argued, especially within the context of the "Kurgan theory". Burial ritual has been regarded as extremely important in linking the Globular Amphora culture with the Indo-Europeans. Here special emphasis is placed on the evidence for suttee, the execution of the wife on the death of the husband, which may be suggested from a number of Globular Amphora burials. The burial of livestock, particularly teams of oxen, has also been regarded as an Indo-European trait as well as the presence of amber "sun-discs". Finally, the physical type of the Globular Amphora population, at least those in the easternmost territories, has been seen to be similar to those of the steppe region. Nevertheless, many of the more diagnostic attributes of the Globular Amphora culture, such as the horse, animal burials, axes, can all be found in the earlier TRB and Lengyel cultures and any attempt to connect the Globular Amphora with the steppe cultures genetically or through historical contacts is strongly disputed by those who find its origins to lie among local cultural developments, particularly in Poland. Recent detailed analyses of Globular Amphora origins tend to emphasize a complex set of relationships with earlier and neighboring cultures that render inadequate past schemes of simple genetic derivation. Given its area of occupation, the Globular Amphora culture has been claimed as the underlying culture of a Germanic-Baltic-Slavic continuum.

See also Corded Ware Culture; Kurgan Tradition; Maykop Culture; TRB Culture. [J.P.M.]

Further Readings

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GNAT *see* FLY, INSECTS

GO

$h_1$ei- 'go' (pres. ***$h_1$éiti***). [*IEW* 293–294 (**ei-*); Wat 16 (**ei-*); GI 627 (**ei-*); Buck 10.47; BK 442 (**ay-/*əy-*)]. Wels

wyf 'am', Lat *eō* 'go', Goth *iddja* 'went', OPrus *ēit* 'goes', Lith *eimi* 'go', Latv *eĩmu* 'go', OCS *iti* 'go', Grk *εἶμι* 'will go', Hit *yanzi* 'they go', *pāimi* (< **pe-eimi*) 'go', *iētta* (< PIE middle **h$_1$i̯-é-to-r*) 'goes', Av *aēiti* 'goes', OInd *éti* 'goes', TochAB *i-* 'go'. Cf. the widespread derivative **h$_1$iter-*: Lat *iter* 'a going, walk, way', Hit *itar* 'a going', TochA *ytār* 'road, way', TochB *ytārye* 'road, way'. Practically universal in IE and old. This appears to have been the least marked verb of motion in PIE.

***h$_a$et-** 'go'. [*IEW* 69 (**at-*); Wat 4 (**at-*); GI 370; BK 366 (**at[^{h}]-/*ət[^{h}]-*)]. Lat *annus* 'year', Osc *akeno-* 'year, celebration, time of sacrifice', Umb *acno-* 'year, celebration, time of sacrifice' (Italic **atno-*), Goth *aþn* 'year', OInd *átati* 'goes, wanders'. Sparsely attested, but the geographical distribution would seem to assure its PIE status. The semantic development 'go' > *'cycle' > 'year' is a significant innovation common to Italic and Germanic.

***sed-** 'go'. [*IEW* 887 (**sed-*); Wat 56 (**sed-*); Buck 10.47]. The underlying verb is attested only in Indo-Iranian, and then only with prefixes: Av *pazdayeiti* 'frightens off', *āsnaoiti* (< **ō-sd-neu-*) 'approaches', OInd *ā-sad-* 'enter', *ut-sad-* 'disappear'. Cf. OCS *chodŭ* 'walk', *choditi* 'go' (the Slavic initial *ch-* suggests these words generalized the form once found in compounds such as *pri-* or *u-*), Grk *ὁδός* 'way', *ὁδεύω* 'wander'. This verb is widespread and looks to be old in IE. No doubt because at least its root shape was homophonous with that of **sed-* 'sit', it tended to be restricted to combinations with preverbs where the semantic distinction remained clear.

***sent-** 'go'. [*IEW* 908 (**sent-*); Wat 58 (**sent-*)]. OHG *sinnan* 'go, travel, wander' (cf. ON *senda* 'send', OE *sendan* 'send' [> NE *send*], OHG *senten* 'send', Goth *sandjan* 'send' < PIE **sontéi̯e/o-*), Lith *suntù* 'send', Latv *sutu* 'send', Av *hant-* 'arrive'. Sparsely attested as a verb, only in Germanic, Baltic and Avestan. However, that distribution would seem to guarantee at least late PIE status. Its derivative **sentos* 'way' is more widely known.

***i̯eh$_a$-** 'go, travel'. [*IEW* 296 (**i̯ā-*); GI 627 (**yaH-*); Buck 10.66]. Lith *jóju* 'ride', Latv *jāju* 'ride', OCS *jadǫ* 'ride', Av *yā-* 'go', OInd *yā́ti* 'goes, travels', TochAB *yā-* 'go, travel'. Compare the derivative **i̯eh$_a$-nu-* 'a going' in Lat *iānus* '(arched) passageway', TochA *yoṃ* 'trace, footprint' (< *'trace [of going]'); and the further derived **i̯eh$_a$nu-i̯eh$_a$-* in Lat *iānua* 'passage(way), entrance', TochA *yoñi* 'path, way, course', TochB *yoñiya* 'path, way, course'. Widespread and old in IE. Perhaps this should be reconstructed **h$_1$i̯-éh$_a$-* and be regarded as an iterative-intensive derivative of **h$_1$ei-* 'go'.

***meih$_x$-** 'go' (pres. ***mineh$_a$- ~ *meih$_x$eh$_a$-**). [*IEW* 710 (**mei-*); Wat 40 (**mei-*); Buck 10.47]. MWels *mynet* 'go', Lat *meō* 'go, wander', OCS *minǫ* 'pass by, pass away', Pol *mijać* 'pass by'. A later word of the west and center of the IE world.

***steigh-** 'step (up), go'. [*IEW* 1017–1018 (**steigh-*); Wat 65–66 (**steigh-*); GI 101; Buck 10.21, 10.47]. OIr *tīagu* (*DIL tëit*) 'stride', ON *stīga* 'climb', OE *stīgan* 'climb', OHG *stīgan* 'climb', Goth *steigan* 'climb', Lith *steĩgtis* 'hurry', Latv *stèigt(iês)* 'hurry', OCS *stignǫ* 'come', Grk *στείχω* 'step, go', OInd *stighnóti* 'climbs'. Cf. the widespread derivatives: (1) **stighs* in ON *stig* 'step', OHG *steg* 'plank, footbridge', OCS *stĭdza* 'footstep, street', Grk *στίχος* 'row, line', *στίχες* (pl.) 'series'; (2) **stóigho/eh$_a$-* in OHG *steiga* 'step, way', Goth *staiga* 'way, path', Alb *shteg* 'path', Grk *στοῖχος* 'row, line'. Widespread and old in IE. The root may also underlie Germanic expressions for 'twenty', e.g., NHG (dial.) *steige* 'twenty items', CrimGoth *stega* 'score, twenty' which was borrowed into Slavic **staga* 'score'.

***h$_1$el-** 'go'. [*IEW* 306-307 (**el-*); Wat 17 (**el-*); cf. Buck 10.47, 10.65]. MWels *el* 'may go', Grk *ἐλαύνω* 'drive', Arm *eł* 'climbed, came out'. Sparsely attested but the geographical spread of that attestation would seem to assure a word at least of the west and center of the IE world.

Go Out (Away)

***leit(h$_x$)-** 'go away, go forth'. [*IEW* 672 (**leit(h)-*); Wat 36 (**leit-*)]. ON *līða* 'go (away)', *leiða* 'lead', *liðinn* 'dead', OE *līðan* 'go, travel', *lǣdan* 'lead, bring' (> NE *lead*), OHG *līdan* 'go, travel, go away', *leiten* 'lead, bring', *leita* 'burial', MHG *bileite* 'burial', Goth *galeiþan* 'go, come', Grk (Hesychius) *λοίτη* 'tomb', *λοιτεύω* 'bury', Av *raēθ-* 'die', TochB *lit-* 'pass on, move away', *litk-* (< **l(e)it-sk̂e/o-*) 'remove, avert', *lait-* 'depart, pass away, deviate'. Widespread and old in IE. This verb gives us evidence in PIE for the same metaphor as in English of 'pass on, pass away' for 'die'.

***h$_1$leudh-** 'go (out)'. [*IEW* 306–307 (**el-eu-(dh-)*); Wat 37 (**leudh-*)]. OIr *lod* (*DIL tëit*) 'went', Grk *ἤλυθον* 'went', TochAB *lät-* 'emerge' (TochB past *lac* 'he emerged'), *lut-* 'drive out'. The agreement of the thematic aorist, PIE **h$_1$ludhét* 'he went (out)', in these three languages guarantees the PIE status of this particular verb. An enlargement of **h$_1$el-* 'go'.

Go Forward

***seh$_1$(i)-** 'go forward, advance'. [cf. *IEW* 892 (**sē[i]dh-*)]. Wels *hawdd* 'easy, feasible, prosperous', Grk *ἰθύς* 'direct, straight; upright', *ἰθύω* 'press forward', Arm *aǰ* (< **sh̥$_1$dhi̯ó-*) 'right', Phryg *σιδετο* 'succeeded, achieved', Hit *zāi* (< **sóh$_1$i̯ei*) 'crosses over' (pl. *ziyanzi* < **sh$_1$i̯iénti*), *zīnu-* (< **sih$_1$-neu-*) 'cause to cross over', Av *-hād* 'directing', OInd *sā́dhate* 'succeeds, prospers', *sídhyati* 'succeeds, reaches successfully', *sādhú-* 'straight, direct; competent'. Reasonably widespread, certainly old in IE.

Go Beyond

***per-** 'pass through' (pres. ***pórei**). [*IEW* 816–817 (**per-*); Wat 50 (**per-*); Buck 10.47; BK 69 (**p[^{h}]ar-/*p[^{h}]ər-*)]. Lat *portāre* 'lead', ON *fara* 'travel', *ferja* 'travel, ship', OE *faran* 'set forth, travel; undergo' (> NE *fare*), *gefaran* 'die; attack, overcome', OHG *faran* 'travel', *ferjen* 'travel, ferry across', Goth *faran* 'wander, pull', *farjan* 'travel, go by sea', OCS *porjǫ* 'cut off', *na-perjǫ* 'bore through', *perǫ* 'fly', Rus *perjú* 'fly', Alb *sh-poroj* (< **pēreh$_a$-ni̯e/o-*) 'stab, pierce (with spear)', *sh-pie* (< **-peri̯e/o-*) 'send, carry, take to, lead', Grk *περάω* 'pass through, transverse' (trans./intrans.), *πείρω*

'pierce, bore through', πορεύω 'bring, carry, convey', **πορεύομαι** 'go, walk, travel; pass through', **πορεῖν** (aorist) 'bring to pass; offer, bestow', Arm *hordan* 'go away', Av *-par-* 'convey across', OInd *píparti* 'conveys across; saves'. Cf. the widespread derivatives (1) **pértus* (gen. **pr̥tóus*) 'passage way': OWels *rit* 'ford', Gaul *ritu* 'ford', Lat *portus* 'harbor', ON *fjǫrðr* 'estuary', OE *ford* 'ford' (> NE *ford*), OHG *fort* 'ford', Av *pərətu-* 'bridge', *Hu-pərəθw-a-* 'Euphrates' (< *'± that which is good to cross'); (2) **póro/eh$_a$-* 'passage, way': ON *fǫr* 'journey', OE *faru* 'journey', Grk *πόρος* 'ford; ferry; way, track', Av *pāra-* 'bank, boundary, end', TochB *akwampere-* 'sprout and stalk'. Widespread and old in IE. From the adverb/preposition **per-* 'through'.

terh$_2$- 'bring across; overcome'. [*IEW* 1074–1075 (**ter-*); Wat 70 (**terə-*); GI 50, 176 (**t^{h}er-H-*); cf. Buck 10.57; BK 149 (**t^y[^{h}]ar-/*t^y[^{h}]ər-*)]. Pres. **térh$_2$ti*: Hit *tarhzi* 'defeats', OInd *tárati* ~ *tiráti* 'sets over, brings across; overcomes'; pres. **treh$_2$ie/o-*: Lat *intrāre* 'enter', Grk *τρᾱνής* ~ *τρᾱνός* 'penetrating, clear', Av *θrāya-* 'protect from, shelter' (< *'lead across'), OInd *trā́yati* 'protects, shelters'. Reasonably widespread and certainly old in IE. From the preposition/adverb **ter* 'through' which shows up again in some other nominal derivatives: Grk **τέρθρον** 'end, point', *τέρμα* 'goal, endpoint', **τέρμων** 'boundary marker' (< *'boundary pole'), Arm *t'arm* 'endpiece', Hit *tarma-* 'nail, peg'.

serK- 'pass, surpass'. [VW 451–452]. Hit *sarku-* 'projecting, immense, powerful', TochB *ṣärk-* 'pass, surpass, go beyond'. The agreement of Hittite and Tocharian would seem strong evidence for this word's PIE antiquity.

?*ked- '± pass through'. [Wat 27 (**ked-*)]. Lat *cēdō* 'go (from), give place, retire', TochAB *kätk-* (< **k$_e$d-sḱe/o-*) 'cross over; commit'. Though not widely attested, its geographical distribution makes this word a likely candidate for late PIE status.

?*peri-h$_1$es- 'surpass'. [Del 273]. Grk *περίεστι* 'comes round', OInd *pary asti* 'surpasses'. A compound of **h$_1$es-* 'be' which might be old but may reflect independent formations in Greek and Old Indic

See also Across; Attain; Come; Death Beliefs; Ride; Run; Step; Through; Way; Year. [D.Q.A.]

GOAT

dīks (gen. ***digós***) 'goat (*Capra hircus*)'. [*IEW* 222 (**digh-*); Buck 3.36]. OE *ticcen* 'kid', OHG *ziga* (< **dikéh$_a$-*) 'goat (male or female)', *zickī* (with affective consonant gemination) 'female goat', Alb *dhi* (< **deigeh$_a$-*) 'she-goat', Grk (Hesychius) **δίζα** '(she-)goat', Arm *tik* 'leather skin', Wakhi *tiγ* (a call to goats), Ishkashmi *dec* 'goatskin bag'. Though the text of Hesychius gives **δίζα** as "Laconia", others have thought that that designation was an error and that the word was actually Thracian or Illyrian. Widespread and old in IE.

bhuĝos 'buck, he-goat (male *Capra hircus*)'. [*IEW* 174 (**bhūĝo-s*); Wat 10 (**bhugo-*); GI 501 (**b^{h}uḱ'o-*); Buck 3.37]. OIr *boc* 'buck', Wels *bwch* 'buck', ON *bukkr* 'buck', OE *bucca* 'buck' (> NE *buck*), OHG *bok* 'buck' (Gmc < **bhuĝnó-*, the Celtic may be borrowings from Germanic), Arm *buc* 'lamb', Av *būza* 'goat, he-goat', NPers *buz* 'goat'. Related in some fashion but phonologically very irregular is OInd *bukka-* 'goat, he-goat'. Subject to expressive phonological rebuilding but certainly of PIE age.

h$_a$eiĝs 'goat (*Capra hircus*)'. [*IEW* 13 (**aiĝ-*); Wat 1 (**aig-*); GI 501; Buck 3.36]. Probably Alb *edh* 'kid', Grk *αἴξ* '(she-)goat', Arm *ayc* '(she-)goat', Av *izaenā-* '(goat)hide'. Perhaps belonging here too is OInd *eḍa-* '(a kind of) sheep' (with the *-ḍ-* generalized from such cases as *eḍ-bhis* where it would be regular from **-ĝ-*) but it is more likely to reflect a borrowing from Dravidian. A word of the center and east of the IE world.

h$_a$eĝós 'he-goat (male *Capra hircus*)'. [*IEW* 6–7 (**ăĝ-*); GI 501; Buck 3.36]. OPrus *wosee* 'goat', *wosux* 'he-goat', *wosistian* 'kid', Lith *ožỹs* 'he-goat', *ožkà* 'she-goat', Latv *âzis* 'he-goat', Av *aza-* 'he-goat', MPers *azak* 'goat', OInd *ajá-* 'he-goat', *ajikā* ~ *ajā́* 'she-goat'. TochA *ās* 'goat', TochB *aṣiye* 'pertaining to a goat' represent borrowings from some Iranian source. **h$_a$eĝós* would appear to be a rather banal derivative, albeit one of PIE age, of **h$_a$eĝ-* 'drive, lead'. However, the semantic specialization to 'he-goat' (through '± bell-wether'?) is obscure. In astronomy, the OInd *ajá-* represents the zodiacal sign Aries. A word of the center and east of the IE world.

ghaidos 'goat (*Capra hircus*)'. [*IEW* 409–410 (**ghaido-* ~ **ĝhaido-*); Wat 20 (**ghaido-*); GI 501; Buck 3.36]. Lat *haedus* 'young goat, kid', ON *geit* 'goat', OE *gāt* (> NE *goat*) 'goat', OHG *geiz* '(she-)goat', *geizīn* 'kid', Goth *gaits* 'goat', *gaitein* 'kid'. A northwest regionalism.

kápros 'he-goat (male *Capra hircus*)'. [*IEW* 529 (**kapro-*); Wat 27 (**kapro-*); GI 501; Buck 3.37; BK 253 (**k[^{h}]ab-/*k[^{h}]əb-*)]. OIr *gabor* 'he-goat', Wels *gafr* 'he-goat', Gaul *Gabro-magos* 'goatfield' (with initial *g-* rather than **k-* that is not well understood—perhaps by conflation with **ghab-* 'lamb' otherwise seen in Umb *habina-* 'ewe-lamb'), Lat *caper* 'he-goat', ON *hafr* 'he-goat', OE *hæfer* 'he-goat', NPers *kahra* (< Proto-Iranian **kafra-ka-*) 'kid'. Widespread and old in IE. This word is a thematic derivative of **kápr̥* 'penis' seen, extended by *-th*, in OInd *kápr̥th-* 'penis'. A similar extension, with a different though obviously parallel meaning, is Grk *κάπρος* 'boar'.

?*koĝhéh$_a$- 'goat (*Capra hircus*)'. [*IEW* 517 (**kago-*); GI 500–501 (**q^{h}oḱ'-*); BK 213 (**ʈ̣[^{h}]ah-/*ʈ̣[^{h}]əh-*)]. OCS *koza* 'she-goat', *kozĭlŭ* 'he-goat', *koža* 'leather, skin', Rus *kozá* 'she-goat', *kozël* 'he-goat', *kóža* 'leather, skin', Alb *kedh* 'kid' (Alb < **koĝhos*; instead of the expected **kadh* we have *kedh* after *edh* 'kid' or we have a rebuilt paradigm from the **kadh* [sg.], **kedh* [pl.], that we would expect from **koĝhos* [sg.], **koĝhoi* [pl.]). Possibly a late dialect word of the center of the IE world. This word is often, albeit hesitantly, grouped with the earlier entry, **h$_a$eĝós* 'he-goat' (though the initial **k-* is not well-explained by such a hypothesis), or with the Germanic group represented by OE *hēcen* 'kid', MDutch *hoek(e)* 'he-goat' (see **(s)ḱegos* 'sheep, goat'). Neither hypothesis would appear to be possible since the lack of Winter's Law (whereby a PIE

short vowel is lengthened before original voiced stops but not before aspirates) in the Slavic words forces us to reconstruct a PIE **koĝhéh$_a$-*, rather than the **koĝéh$_a$-* that either of these other hypotheses would demand.

Archaeological Evidence

The range of the wild goat extended from Anatolia across Central Asia to southern Afghanistan (with some evidence for wild goats also in Crete and other Greek islands) and following the Ice Age it was widely hunted along with the gazelle. It is in southwest Asia that the domesticated goat (*Capra hircus*) first appears by the eighth millennium BC in the region of Anatolia and Kurdistan and perhaps only slightly later in Palestine. In archaeological faunas, the remains are often difficult to distinguish from those of sheep (except for the distinctive horns and metapodia), and the two are often combined as "ovicaprids" or "caprovines". The utility of the goat lies in both its wider adaptability than sheep—a wider ranging diet that includes browse and greater tolerance of temperature and terrain—and the fact that it provides more milk than sheep; in fact, with respect to body weight it also yields more milk than cattle. For this reason, the presence of some goats are generally encountered everywhere across Eurasia during the Neolithic period and it is difficult to attribute its lexical diversity to a "late introduction" to speakers of IE languages.

The palaeozoological evidence offers some possibilities for explaining the diversity of 'goat' names but unless deeper meaning can be extracted from the various terms (other than the obvious association with the word for 'penis'), this remains less than an hypothesis. For example, although the domestic goat appears to have emerged from *Capra aegagrus*, the bezoar goat, the same species shows some variety in appearance across the range of its distribution from eastern Anatolia and Crete east across Iran and Afghanistan. The differences might be in size, color, and shape of horn and may have called for early lexical distinctions. Moreover, other species of wild goats of varying appearance, especially with respect to horns, did exist such as the West Caucasian tur (*Capra caucasica*), the East Caucasian tur (*Capra cylindricornis*), the markhor (*Capra falconeri*) of Afghanistan, Pakistan and Tadzhikistan or the ibex (*Capra ibex*) of Central Asia and the European Alps (*Capra pyrenaica*). Contact with any of these other species of wild goats might explain some of the regional isoglosses. Regional breeding selection for some features might also account for lexical diversity. Goats with scimitar horns were typical of the early Neolithic but by the middle Neolithic goats with twisted horns began to predominate in central and eastern Europe. Other levels of semantic distinction may have derived from the particular use of the goat. For example, the bezoar goat takes its name from NPers *pád-zhar* 'counter poison', reflecting the belief that a concretion extracted from the stomach of the goat could be employed as an antidote to poison while the markhor takes its name from the modern Iranian word for 'snake-eater'.

The Goat in Indo-European Myth

The goat occurs in the mythological traditions of a number of IE stocks and there are some similarities that may suggest either common inheritance or (long distance) borrowing. The goat, for example, is the animal that draws the chariot of the Old Indic fertility god Pūṣan (*RV* 10.26.8) and also that of the Old Norse Þórr who is also closely associated with marriage and fertility, and his Lithuanian equivalent, Perkūnas. The goat is also prominent in the Old Indic burial ritual where the deceased was laid on a goat skin and accompanied by its entrails as gifts to the hounds of the dead; goat entrails were similarly seen as sops for the Greek canine guardian of the underworld, Kerberos.

See also HIDE; HORN; MAMMALS; SHEEP. [D.Q.A., J.P.M.]

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GOD

deiu̯ós 'god'. [*IEW* 185–186 (**déiu̯o-s*); Wat 10 (**deiw-*); GI 692 (**t'eiwo-*); Buck 22.12; BK 119 (**t'a^y-/ *t'ə^y-*)]. OIr *dīa* 'god', OWels *duiu-tit* 'divinity', Lat *deus* 'god', ON *Tӯr* (name of war god), (pl.) *tīvar* 'gods', OE *Tīw* (name of war god, cf. *Tīwesdæg* 'Tuesday'), OHG *Zīo* (name of war god), OPrus *deiw(a)s* 'god', Lith *diẽvas* 'god', Latv *dìevs* 'god', OCS *divŭ* 'demon', Hit ^{D}*sius* (with assibilation of the initial dental) '(sky) god', Av *daēva-* 'demon', OInd *devá-* 'god'. In origin a thematic derivative of **di̯eu-* 'sky, day, sun(god)' meaning '± luminous one, god (in general)'. It is often emphasized that the etymology of PIE 'god' indicates a distinction between the world of the gods who are bright, celestial beings (a deification of the diurnal sky) and humans who are terrestrial, e.g., Lat *homō* 'man' with *humus* 'earth' although there are also a set of deities whose names are built on **ne-* 'down(wards)' that may be regarded as subterranean. The meaning 'demon' in Avestan and Old Church Slavonic reflects directly or indirectly the "religious revolution" of Zaraθuštra whereby the old gods were pushed aside and revalued as enemies of Ahura Mazdāh. Obviously widespread and old in IE, cf. the fairly widespread derivative **diu̯i̯ós*: Lat *dīus* 'divine', Grk *δῖος* 'divine', OInd *divyá-* 'heavenly'.

di̯éus ph̥$_a$tḗr 'sky-father'. [*IEW* 184 (**di̯ēus-pətēr*); GI 680 (**t'yeu(s)-p^{h}H̥t^{h}er-*)]. Lat *Iūpiter* ~ *Iuppiter*, Umb *Iupater*, Illyrian *Δει-πάτυρος*, Grk *Ζεὺς πατήρ*, OInd *dyáuṣ pitá*. From **di̯éus* 'sky' and *ph̥$_a$tḗr* 'father'. The expression also appears in Anatolian with the children's word for 'father', i.e., Luv *tātis tiwaz* 'daddy sky', Palaic *tiyaz...pāpaz* 'sky...papa'. In Hittite the name of the sky god was replaced by a Hattic loan although the structure of the phrase was kept intact, i.e., Hit *attas Isanus* 'father Sun-god'. Cf. also parallel Baltic formations

such as Latv *Dievs, Debess tēvs* 'god, father of heaven'. It has been argued that Rus *Stribogŭ* (name of a deity), also preserves the basic structure with (presumably Iranian loanword) *bog* 'god' replacing that for the sky, hence 'father-god'. A Celtic reflex has also been suggested with regard to the Irish god, the Dagda, who bears the epithet 'great father', i.e., OIr *in Dagdae Oll-athair* (< **sindos dago-dei̯uos ollo [p]atīr*). The distribution of this well known set of correspondences indicates PIE status.

***dhug(h̥$_a$)tḗr di̯uós** 'sky-daughter'. Lith *diẽvo duktė̃* 'Saulytė' (daughter of the sky), Grk **θυγάτηρ Διός** 'sky-daughter' (epithet of Aurora, the dawn), OInd *duhitā́ diváḥ* 'sky-daughter. From **dhug(h̥$_a$)tḗr* 'daughter' and **di̯ḗus* 'sky'. Cf also Lith *sáulės duktė̃* 'sun-daughter', Latv *saũles meita* 'sun-maid', OInd *duhitā́ sū́ryasya* 'daughter of the sun'.

***dhéh$_1$s** (gen. ***dhh̥$_1$sós**) 'god'. [*IEW* 259 (**dhēs-*); Wat 14 (**dhēs-*); cf. GI 388; Buck 12.22; BK 70 (**diy-/*dey-*)]. Lat *fēriae* 'festival day', *fēstus dies* 'of a holiday, festive, festival (day)', Grk **θεός** (< **dhh̥$_1$s-ó-*) 'god', **θέσφατος** 'spoken by god, ordained, divine', Arm (pl.) *dik'* (< **dheh$_1$ses*) 'gods', OInd *dhiṣā́* '± with impetuosity'; cf. **dhh̥$_1$s-én-* 'endowed with supernatural force': Lat *fānum* (< **fasnom* < *dhh̥$_1$sno-*) 'temple' (< *'consecrated place'), Osc *fíísnam* 'temple', OInd *dhiṣána-* (epithet of various gods), *Dhiṣána-* (name of a harmful demon), *dhíṣṇya-* (epithet of the Aśvins), Prakrit *Dhiṣana* 'Bṛhaspati' (god of devotion), Kati *disā́ri* (evil female deity), Ashkun *däsäni* (female monster). Widespread and certainly old in IE. Possibly **dheh$_1$s-* is an enlargement of **dheh$_1$-* 'place, put, establish' but the semantic connection is not overly compelling.

??*ĝhutóm 'something evoked, god'. [cf. *IEW* 413 (**ĝhŭ-to-*); Wat 23 (**gheu(ə)-*); Buck 12.22]. ON *goð* 'god', OE *god* 'god' (> NE *god*), *gydig* 'possessed, insane' (< *'possessed by a god'; > NE *giddy*), OHG *got* 'god', Goth *guþ* 'god' (in the early Germanic languages this noun was neuter when referring to the inherited Germanic gods but masculine when transferred in sense to the Christian god). The only non-Germanic cognate suggested here is TochA *ñkät* 'god', TochB *ñakte* 'god' (Toch < **ni-ĝhuto-* 'one called down') which seems phonologically improbable; we would expect TochB ***ñkwate* from **niĝhutós* or TochB ***ñak$_u$te* from **níĝhutos*. The Germanic forms have been variously derived from PIE **ĝheu(h$_x$)-* 'call, invoke' or regarded as a substrate term.

The Indo-European Sky god

The **di̯ḗus ph̥$_a$tḗr* 'sky-father' is one of the very few deities that can be reconstructed to Proto-Indo-European on purely linguistic (in contrast to structural) grounds. The underlying structure would appear to posit a 'Father-sky' who begets both the set of Divine Twins and a daughter. The Twins are themselves accompanied by or wed to the daughter of the Sun. Although the linguistic reflex is solid, the comparison of other mythic elements is relatively sparse due to the different evolutions of the Sky god in different IE stocks.

In Old Indic religion, the Sky god's pre-eminence has been greatly diluted and he has become something of a shadowy ancestral figure. He remains the father of the Divine Twins, the Aśvins, a position paralleled by the Sun god Sūrya who fathers Yama 'twin' and Yamī '(female) twin'. He is also the father of the goddess Uṣas, the 'dawn', who is of PIE date. Dyaus mates with Pṛthivī 'earth' (cf. in Greek mythology the marriage of Zeus and Hēra or Ouranos and Gaia 'earth'). In the *Mahābhārata* Dyaus is incarnated as Bhīṣma, an old warrior and both his characterization and his career have been regarded as filling in the "mythic portfolio" which is absent from the Vedas.

The linguistic cognates of the Old Indic Dyaus in Greek and Roman religion are Zeus and Jūpiter respectively. They are both clearly sky gods, e.g., Lat *sub Iove* 'in the open (= under the open sky)' who have also accrued the roles of weather deities, e.g., thunder, lightning, rain. In the cosmological model proposed for Proto-Indo-European by Jean Haudry deities of the diurnal sky such as the Greek Zeus could not transgress the night sky which was inhabited by its own sets of gods and the spirits of the dead.

Those who follow the Dumézilian model of IE mythic analysis find better parallels between Dyaus and his structural equivalent, Heimdallr, in Old Norse myth. Like Dyaus, Heimdallr is a progenitor, in this case he is the ancestor of the three social classes, anthropomorphized in his three sons, Þræll ('Slave'), Karl ('Peasant') and Jarl ('Noble'). He guards Bifröst, the Rainbow Bridge, against the onset of the monsters who will come against the gods at the end of the world and, when the Ragnarök does come, he will be the last of the old order to die.

In Anatolian tradition the lexical remnants of the Sky god, found in Hit *Siu-*, Luv *Tiwat-* and Palaic *Tiya-* would appear to still occupy central place among the other deities.

See also Comparative Mythology; Eschatology; Sacred; Spirit. [E.C.P., D.Q.A., J.P.M.]

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GODDESSES

The only goddesses which may be safely assumed to be Proto-Indo-European are those which are not only mythologically comparable with one another but which are linguistically cognate as well. There are few such goddesses, and they represent largely natural phenomena with slight personification.

Proto-Indo-European Goddesses

These include the goddesses of the dawn (**h$_a$éusōs*): Roman Aurora, Greek Ēōs, Indic Uṣas, Latvian Auseklis, Lithuanian Aušrinė; the sun-maiden/daughter of the sun (<

*séh$_a$ul): Indic Sūryā, described in some hymns of the *R̥gveda* as the bride of the twin Aśvins, and in other hymns as the bride of the moon-god, Soma; and the Baltic Saules meita, described in folksongs variously as the bride of the moon, Meness, and of the twin Dieva dēli. A third possible sun-maiden is Greek Helenē; her name is derived from PIE **su̯el-* 'to burn', with secondary *-en-* and feminine *-ā* (Attic Greek *η*) suffixes; Helenē 'burns homes' through her beauty (Euripides, *Trojan Women* 893–894). Cognates include Greek **εἴλη**, **ἕλη** (fem.), 'sun's warmth'. If Helenē is a sun-maiden, her original relationship to the Dioskouroi, the Divine Twin gods, was that of bride and not that of sister.

Both the indigenous cultures and the Proto-Indo-Europeans had earth-goddesses; the Proto-Indo-European Earth goddess was the Slavic Mati Syra Zemlja, Latvian Zemes Māte, Lithuanian Žemyna, Phrygian and Thracian Greek Semel, borrowed into Attic Greek as **Σεμέλη** (cf. also Lat *humus*, Attic Greek **χθών**, Hit *tēkan*, OInd *kṣam-*, TochA *tkaṃ*, TochB *keṃ*).

The Proto-Indo-European river (or watery place) has several personified cognates (**dhōnu-* or **deh$_a$nu-*): Indic Dānu; Irish Danu, mother of the Tūatha Dē Danann; Welsh Dôn; and with gender-switching, the Greek Danaus and his descendants, Danaë and the Danaïds.

Greek Hestia, Roman Vesta, goddesses of the hearth, have no other cognates in other Indo-European stocks, so they cannot be considered Proto-Indo-European goddesses.

Goddesses Assimilated from Pre-Indo-European Substrates

The majority of Indo-European female deities have no linguistic cognates, and are the products of pre-Indo-European cultures indigenous to the areas to which the Indo-Europeans migrated. After the migrations, these goddesses were subsequently assimilated into the Indo-European pantheons. They were generally represented as transfunctional (cf. the Greek Athēnē Hygieia, Polias, Nikē; Roman Jūnō Seispēs, Māter, Rēgīna; Irish Medb and the triple Machas; and Iranian Arədvī Sūra Anāhitā, the 'flowing, strong, spotless' one).

Whereas a male deity fulfilled one of the priestly, warrior, or nurturing functions, the goddesses fulfilled multiple functions; they were prophetesses and bestowers of wisdom; bestowers of sovereignty and martial energy; they aided conception and nurtured the populace. The goddesses largely fulfilled a *passive* role in the Indo-European pantheons, for example, bringing sovereignty to a male figure who would assume the kingship. The Indo-European male deities assumed more active roles in the pantheons.

Most of the goddesses in Indo-European pantheons were linguistically isolated, even though they shared attributes and functions. Whereas these pre- and post-Indo-European female figures, assimilated into the Indo-European pantheons, fulfilled a broad range of functions, and were diversely personified, a lack of personification and narrow functionality may be demonstrated for the goddesses of Proto-Indo-European origin.

See also Dawn Goddess; Divine Twins; Earth Goddess; Fortune; Goddesses (misc.); Horse Goddess; River Goddess; Sun Goddess; Transfunctional Goddess. [M.R.D.]

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GODDESSES (MISC.)

***seren(i̯)uh$_x$s** (name of goddess). [Del 75]. Grk *Ἐρῑνῡ́ς* (name of a Fury), OInd *Saraṇyū́* (name of Vedic goddess). The Greek form is already attested in Myc *e-ri-nu* but without etymology. In Greek myth *Ἐρῑνῡ́ς* (Erinys) refers to one of an unspecified (later fixed to three) avenging furies who have been variously interpreted as spirits of murdered victims (according to Hesiod they sprang from the blood of the murdered Ouranos) or deified curses. *Saraṇyū* is the daughter of the divine craftsman Tváṣṭr̥ and the wife of the Sun, to whom she bears the twins Yama and Yamī. She ran away, taking the shape of a mare and leaving in her stead Savarṇā, a woman of similar appearance, with whom her husband Vivásvat (the shining one = the rising sun) begets Manu. When Vivásvat discovers how his actual wife escaped him, he assumes the form of a stallion, and arouses the desire of the mare Aśvinī, as Saraṇyū is now called. They mate and give birth to the Aśvins. The term *Saraṇyū́* is actually the substantivization of an adjective *saraṇyú-* 'speedy, quick' derived from the root **sar-* 'hurry'. Although challenged in some etymological textbooks it is legitimately linked with Grk *Ἐρῑνῡ́ς* on etymological grounds although it is another thing altogether to attempt to postulate a PIE deity of the same name, especially when there seems little if any reason to associate them in terms of mythological function.

??*il(i̯)eh$_a$- (name of goddess). [Del 73]. Lat *Īlia* (daughter of Numitor), OInd *Ilā* ~ *Iḍā* (daughter of Manu). Structurally, the only reason to posit such a comparison is that Īlia was the daughter of the progenitor of Rōmulus and Remus, the Divine Twins who participate in the foundation myth of Rome, while the OInd *Ilā* is also the granddaughter of Vivásvat who begets the Indic twins, Yama and Yamī. Beyond this there are no further mythic grounds for suggesting a comparison and linguistically this is an extremely unlikely connection. The Latin word is an appellative *īlia* 'guts, womb, feminine parts', related with Slavic **jelito* > Pol *kelito* 'guts, sausage'. An

assumed further link with Grk ἰλῦς 'mud' has to be rejected. OInd *Iḍā* (as also *ilā* and *irā*) is the personified 'soothing drink, libation', corresponding to Av *iza* 'milk as soothing drink, libation personified' which are generally derived from *ish$_1$ros '(sacred) power'. Linguistically, the comparison between the Latin and Indic deities rests solely on phonetic resemblance.

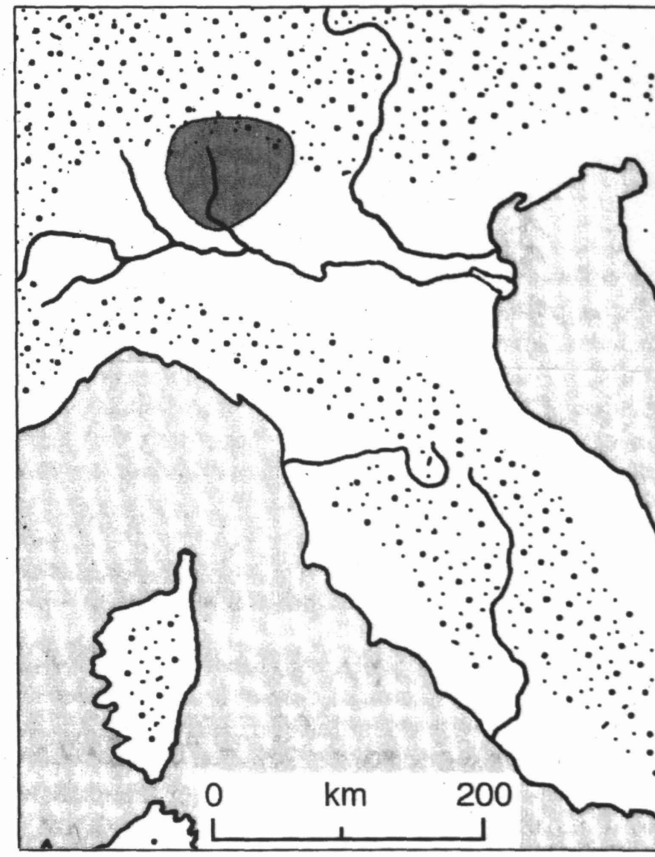
As a goddess, OInd *Iḍā* is invoked to strengthen the offering, as she transfers the force inherent to the sacrifice; as an appellative, *iḍā* designates the rest of the milk in the *Agnihotra*, a part of the animal slaughtered in bloody sacrifices, a portion of the *soma* in libations. *Ilā* means variously 'nourishment, libation of milk, power of praise' and *Ilā* is also a deity of speech and an earth goddess. *Iḍā* participates in all offerings; she is full of mysterious forces and is said to symbolize the "completion of life" for the participants in religious processes. Legendarily she springs from the sacrifice offered by Manu to obtain a son. As he mispronounced the ritual formula, he got a girl instead. She later taught Manu new sacrificial rites, and Manu begat the various races of mankind.

See also Dawn Goddess; Divine Twins; Earth Goddess; Goddesses; Horse Goddess; River Goddess; Sun Goddess; Transfunctional Goddess. [E.C.P.]

GOLASECCA CULTURE

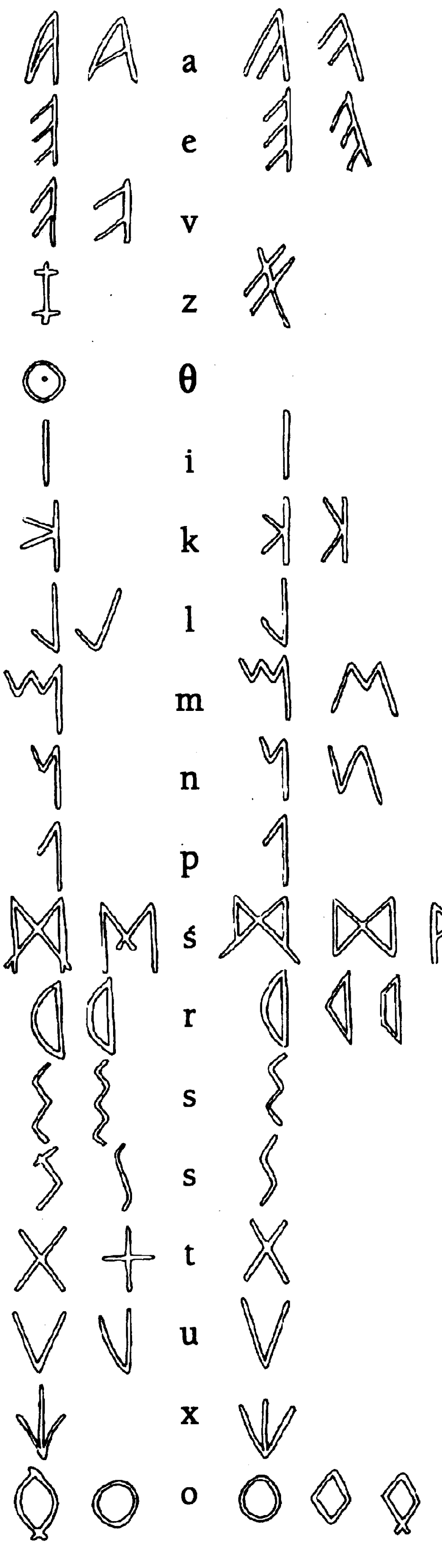
The Iron Age of northwest Italy is generally assigned to the Golasecca culture which flourished from a Proto-Golaseccan or Carnegrate group (*c* 1200–900 BC) through three main phases down to 15 BC when the area was effectively absorbed into the Roman world. Its origins have been sought in population movements from the north associated with the spread of the Urnfield culture. A combination of intrusive traits (urns, metal types [cremation burial had preceded the spread of urnfield types]) and local features fused, it is argued, to form the Golasecca culture. Early settlements are not well known but there is evidence of hillforts or the occupation of naturally defensive sites; later settlements became the nuclei of major northern Italian urban centers. The culture is better known from its cemeteries such as the eponymous site of Golasecca which was excavated in the early nineteenth century (and misinterpreted as a war-cemetery from Hannibal's defeat of Scipio). Burial comprised cremation in an urn which was set in the ground or a stone cist (chamber) and frequently surrounded by a circular setting of stones. Grave goods, including both weapons (swords, daggers, spears, horse gear, wagons, armor), situlae (metal buckets), and ornaments exhibit very marked distinctions in status. At the site of Sesto Calende, south of Lake Maggiore, were two chariot burials dating to the sixth century BC accompanied with weapons, ornaments and a large situla while an earlier burial at Ca' Morta (*c* 700 BC) included a four-wheeled wagon in the tomb.

Explaining the wealth of the Golasecca culture has engendered some discussion. The rich warrior burials have been interpreted as evidence for warlords who plundered surrounding peoples or trade parties. That trade was an important component in the culture is undoubted since the region itself lacks many essential resources such as metals and salt and it sits athwart the main north-south Alpine passes such as Saint Gotthard and Saint Bernard. For this reason, control of north-south trade between the Hallstatt culture to the north and the Etruscans to the south has been seen as a major factor in the accumulation of Golaseccan wealth.



Golasecca Culture a. Distribution of the Golasecca culture.

The ethnic identity of the Golaseccans, at least those who were literate, was a mater of some dispute in the nineteenth and early twentieth century since some argued that it was Ligurian (presumed to be non-IE) while others suggested a Celtic identification. The latter is now secure with both the discovery of more inscriptions and the redating of previously discovered epigraphic evidence. The language spoken by the Golaseccans, or at least those who were literate enough to carve, was Lepontic which is recognized as one of the regional variants of Continental Celtic, or more specifically Gaulish. Its presence in northern Italy is secured to at least the sixth century BC and archaeologists have found it difficult to discover anything other than continuity since about 1200 BC and the appearance of Urnfield influences in the area. It is possible, therefore, that (Proto-)Celtic speakers were already penetrating northern Italy by the late Bronze Age. The fact that the peoples of this region maintained regular contact with Celtic-speaking populations north of the Alps would have



Golasecca Culture b. Lepontic alphabet (left side is sixth–fifth century BC script, right side is third–second century BC script).

assisted in both their language maintenance as well as opened them to continuous linguistic influences from the north.

See also CELTIC LANGUAGES; ESTE CULTURE; HALLSTATT CULTURE; LA TÈNE CULTURE; URNFIELD CULTURE. [J.P.M.]

GOLD

$h_a$eusom 'gold'. [*IEW* 86–87 (**au̯es-*); Wat 4 (**aurom*); GI 618 (**Hau-s*), 773; Buck 9.64; BK 393 (**ħaw-/*ħəw-*)]. OLat *aurom* 'gold', Lat *aurum* 'gold', Sabine *ausom* 'gold', OPrus *ausis* 'gold', Lith *áuksas* 'gold', TochA *wäs* 'gold', TochB *yasa* 'gold' (< Toch **wesā* < **h_au̯es-* [with metathesis] < **$h_a$eus-*). Although some have sought to derive the Baltic forms from Latin, there is little to recommend such an assumption as early intervocalic voicing and subsequent rhotacism of [s] in Italic make an early borrowing unlikely. K. Witczak has suggested that a possible Mycenaean reflex of this word is to be found in the ideogram *141 which he interprets as a ligature of two Linear B syllabic signs which would render a *a_4-wo* (hence **αϝός* or **ᾶϝος*). The distribution suggests the possibility of PIE antiquity for this neuter noun which might be derived from the same root as 'dawn'.

It is fairly clear that this and other early metal terms are some form of substantivized adjective, the original modifying the neuter noun **$h_a$ei̯-es-* 'metal'. Terms for 'gold' which bear a vague phonetic similarity to this word for 'gold', i.e., Basque *urre(gorri)a* 'gold', Hurrian *ušḫi* 'gold', Sumerian *GUŠKIN* 'gold', Arm *(v)oski* 'gold', reveal no regular sound change upon which to connect these with IE roots. It has been suggested that the Tocharian forms may have provided the original referent for a series of words relating to metals in general that occur among the Uralic languages, e.g., Balto-Finnic-Lapp-Mordvin **waśke* 'copper, brass', Proto-Ugric **waś* 'metal, iron' and Samoyed **wesä* 'metal, iron'.

ĝhel- 'yellow'. [*IEW* 429–430 (**ĝhel-*); Wat 21 (**ghel-*); GI 618 (**ĝʰel-*); Buck 9.64; BK 228 (**gil-/*gel-*)]. ON *gull* 'gold', OE *gold* 'gold' (> NE *gold*), OHG *gold* 'gold', Goth *gulþ* 'gold', CrimGoth *goltz* 'gold' (Gmc < **ĝhl̥-tó-m*), Lith *žel̃tas* 'golden', Latv *zȩ̀lts* (< **ĝhel-to-*) 'gold', OCS *zlato* 'gold', Rus *zóloto* 'gold' (Slav < **ĝhol-to-m*), Av *zaranyam* 'gold', OPers *daranyam* 'gold', OInd *hiraṇyam* (Indo-Iran < **ĝhl̥-eni̯o-m*). The distinctive yellow color of the native metal makes these derivatives from PIE **ĝhel-* 'be yellow' rather banal. The forms with the *-to-* suffixes are confined to central Europe while the various ablaut grades indicate that they were created independently of each other. The Indo-Iranian forms, zero-grades with *-ni̯o-* suffixes, are yet another such post-IE creation.

Grk *χρῡσός* (Myc *ku-ru-so*) 'gold' is a loan from Akkadian *ḫurāšu* 'gold' which form is occasionally used in Hittite beside the Sumerogram GUŠKIN.

Archaeological Evidence

Most prehistoric gold occurred as a native metal rather than as a mineral ore that required mining and smelting. Its color might range considerably, especially as much native gold

has a high percentage of silver which whitens the metal. The lightness of these native metals led to the alloying of gold with copper during the Bronze Age in order to lessen the whitening effect of the silver. As the sources of prehistoric gold range from the British Isles, France and Iberia in the west across central Europe, particularly the Carpathians, and then through the Balkans to both the north Caucasus and Anatolia, it can play little part in delimiting the area of early IE settlement except that northern Europe, i.e., the Baltic Sea province, lies beyond the area where gold deposits are known.

As for the temporal horizon, the earliest gold objects in the Near East are generally found in contexts dating to the fourth millennium BC in Egypt and Mesopotamia, areas most unlikely to be associated with early Indo-Europeans. Gold appears still earlier in the circum-Pontic region which embraces or at least borders most solutions to the IE homeland problem. In a recent metallurgical study of early Bronze Age metallurgy of the region from Anatolia across the Balkans and Carpathians and east across the Black and Caspian seas gold accounted for over 23,000 out of *c* 32,000 metal objects. Its appearance in Greece probably predates the early Bronze Age and hence should date there at least to the fourth millennium BC while it is spectacularly well attested in the Varna cemetery on the Bulgarian coast where it should date *c* 4500–4000 BC and it is also found in the Gumelniţa culture of *c* 4500–3500 BC. A Carpathian source is likely and gold is also known from Hungary in the Tiszapolgár (*c* 4500–4000 BC) and later Bodrogkeresztúr (*c* 4000–3500 BC) cultures. A gold bracelet from a TRB site in Lower Saxony indicates that gold was circulating as far north as the Baltic during the fourth millennium BC while its presence in the north Caucasus (Maykop culture) by the late fourth millennium and as far east as the Afanasevo culture on the Yenisei suggests a very broad horizon for gold artifacts by the end of the fourth and early third millennia. Gold begins to appear in India in the Indus Civilization of the third and second millennia BC. The spread of gold objects and gold working to the west tends to date to the third millennium BC where we encounter gold ornaments with the Beaker "culture" from central Europe to the Atlantic, and gold appears in the British Isles by *c* 2500–2000 BC. The archaeological record for Britain and Ireland indicates instances where we must presume that IE speakers must have abandoned their inherited word for gold. For example, despite the fact that gold is well known from archaeological contexts in Britain and especially Ireland from *c* 2300 BC onwards, the insular Celtic languages have all replaced their native words with a Latin loan, i.e., OIr *ōr* 'gold', Wels *aur* 'gold' (< Lat *aurom*). The assignment of gold to the PIE community, if situated anywhere between Anatolia, the Balkans or the Pontic-Caspian region, would then seem to be at least archaeologically possible even if it does not assist us in defining the PIE homeland.

See also COLOR; DAWN; HONEY; METAL; SILVER; WEALTH.

[M.E. H., J. P. M.]

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GOOD

u̯esu- 'excellent, noble'. [*IEW* 1174 (**u̯ĕsu-*); GI 683 (**wesu-*)]. OIr (dat.) *feib* (*DIL feb* 'excellence') 'in excellence', Gaul *Vesu-avus* (personal name), *Bello-uesus* (personal name), *Sego-uesus* (personal name) *-uesus* means 'worthy', Late Lat *Vesuna* (name of goddess), Germ *Wisi* ~ *Wesi* 'the noble people (earliest name of the Goths)', *Wisu-rīh* (personal name), Luv *wāsu-* 'good', Av *vohu* 'good', OInd *vásu-* 'good, excellent'. Goth *iusiza* 'better' has generally been understood as a suppletive form with comparative *-iza*, based on **eu̯(e)s-*. The case for PIE status seems good, and is enhanced by the parallel occurrence in personal, ethnic and/or divine names, in most dialects where it is attested. Derived ultimately from **h₁es-* 'to be' and related to **h₁(e)su-* and **su-*, assuming dissimilation of the initial glide. A long tradition of scholarship also sees in adjectival **u̯esu-* a connection to nouns (cf. OInd *vásu-* 'the good'), based on vocalism and accent. Some sources assume historical realignments and mixing between the latter two forms. See following two entries.

h₁(e)su- 'good'. [*IEW* 342 (**esu-s*); Wat 17 (**esu-*); GI 683 (**wesu-*)]. Grk ἐΰς 'good, useful', Hit *āssu-* 'good'. Assuming a further semantic development, Lat *erus*, *era* (< **esos*, **esā*) 'master, lord', and the Gaulish divine name *Esus* have also been placed with this group but the Celtic form is etymologically unclear. Another possible cognate is OInd *ahū-* 'master', again uncertain. Ultimately related to **h₁es-* 'to be' but while this connection is generally accepted, the vocalism and the fate of the laryngeal represent longstanding problems. **h₁su-* would represent an expected adjectival formation, and both the Greek and Hittite forms could be traced to that. Still, other scholars have posited a full grade here (*e* for the Greek and *o* for the Hittite), which cannot be excluded.

su- 'good'. [*IEW* 1037–1038 (**su-* ~ **sū-*); Wat 67 (**su-*); GI 683 (**su-*); Buck 16.71]. OIr *so-* ~ *su-* 'good', Wels *hy* ~ *hu-* 'good', Lith *sūdrùs* (? < **su-dru-* 'good' + 'oak, tree') 'luxuriant', *sveĩkas* 'healthy, good', Latv *svèiks* 'healthy, good' (< **su-ei-kas* 'to move along powerfully'), OCS *sǔdravŭ* 'healthy', Grk ὑγιής 'healthy', Av *hu-* 'good', OInd *sú-* 'good, well, rightly'. These forms might also reflect **h₁su-*, as above, except for the Greek, where loss of laryngeal would have to be assumed.

mel- 'good'. [*IEW* 720 (**mel-*); Wat 40 (**mel-*); BK 529 (**mal-/*məl-*)]. Lat *melior* 'better', Lith *malonùs* 'nice, pleasant', Hit *malā(i)-* 'approve, be favorable'. The apparent agreement of Italic, Baltic and Anatolian would seem to make this word a very likely candidate for PIE status.†

?*meh₂(t)- 'good (especially religious or mystical)'. [*IEW* 693 (**mā-*); Buck 16.71]. OIr *maith* 'good', Wels *mad* 'good', Lat *mānis* ~ *mānus* 'good', *Mātūta* (goddess of Dawn and

Ripeness). Grk μακίς 'great' has been connected here but is highly doubtful and it is not even clear that the word is Greek. If this root can be posited at all, it is confined to the northwest.

?*pro-bhuo-s '?good'. [*IEW* 814 (**pro-bhuo-s*); BK 8 (**buw-/*bow-*)]. Lat *probus* 'good, honest', Umb *prufe* 'properly', OInd *prabhú-* 'powerful'. In all likelihood these represent independent and parallel formations derived from PIE **bhuhx-* 'be' rather than cognates of a PIE root.

?*selhx- 'favorable'. [*IEW* 900 (**sel- ~ *selə-*); Wat 57 (**sel- ~ *selə-*)]. OIr *slán* (< **s̥lhx-no-*) 'safe, healthy', Lat *sōlor* 'comfort, relief', ON *sæll* 'happy, fortunate', OE *sǣl* 'happiness, joy', OHG *sālīg* 'happy', Goth *sēls* 'good, kind, useful', Grk ἱλάσκομαι 'appease, conciliate, expiate'. The core of this reconstruction rests with the Greek which is of uncertain heritage and the Latin which is difficult both formally (differences in vocalism) and somewhat semantically. The Germanic forms are even less certainly connected here. This is a possible but dubious IE root.

??*bheh$_a$d- 'good'. [*IEW* 106 (*bhăd-*); GI 121; Buck 16.71]. ON *betri* 'better', OE *bet(e)ra* 'better' (> NE *better*), OHG *bezzir(o)* 'better', Goth *batiza* 'better' (Gmc < **batizōn*), Av *hu-baδra-* 'fortunate', OInd *bhadrá-* 'fortunate, blessed'. While older sources proposed such a root based on these Germanic and Indic forms, both sets are now widely regarded as etymologically unclear and no IE form can be posited.

See also Bad; Be; Master. [J.C.S., D.Q.A.†]

Further Readings

Hamp, E. P. (1984). IE **meh$_a$-*. *MSS* 43, 45–46.

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GOODS *see* WEALTH

GOOSE

***ĝhan-s** 'goose'. [*IEW* 412 (**ĝhan-s*); Wat 21 (**ghans-*); GI 460 (**ĝ^hans-*); Buck 3.56]. OIr *géis* 'swan', Lat *ānser* 'goose', ON *gās* 'goose', OE *gōs* 'goose' (> NE *goose*), OHG *gans* 'goose', OPrus *sansy* 'goose', Lith *žąsìs* 'goose', Latv *zùoss* 'goose', Rus *gusĭ*, 'goose', Grk χήν 'goose', Sogd *z'γ* 'some kind of bird', OInd *haṃsá-* certainly 'goose' but in the *R̥gveda* perhaps 'swan'. Perhaps derived from **ĝhan-* 'yawn, gape'. Geographical spread insures PIE status.

The species of the underlying referent is unclear. The greylag goose, *Anser anser*, is by far the most widespread; however, many other species, e.g., the bean goose, white-fronted goose, etc., are found on archaeological sites across Eurasia.

In addition to being the largest domestic bird with abundant though greasy meat, the bird is most watchful, and thus has been associated with intelligence, e.g., it was allegedly alert geese that saved Rome from a surprise attack of the Gauls in 390 BC while in India the goose was said to have taught the Vedas to Brahma.

The reconstructed term does not distinguish between the wild and domestic varieties of the goose and even in historical texts it is context rather than linguistics that provides an answer. For example, in the *Iliad* (2.460) the χήν is numbered with the wild birds whereas in the *Odyssey* (19.536) we find Pēnelopē tending her twenty geese about the house. In Greek religion the goose was sacred to Aphroditē. The Romans also raised geese for food as both meat (the front part being the only portion consumed by the upper classes) and for its eggs; the force-feeding of the bird to produced an enlarged liver was already in practice in classical times.

The domestic goose is generally believed to have derived from the greylag (*Anser anser*) which was widely found across Eurasia. The origin of its domestication is uncertain but it has been claimed for the Neolithic, particularly southeast Europe.

See also Birds. [J.A.C.G.]

GRAB *see* TAKE

GRAIN

***ses(i)ó-** 'grain, fruit'. [*IEW* 880 (**sasio-*); Buck 8.42, 8.44]. Wels *haidd* (< **s$_e$sió-*?) 'barley', Hit *sesa(na)-* 'fruit', Av *hahya-* 'providing grain', *hahuš* '± grain', OInd *sasyám* 'grain, fruit', *sasá-* 'grass, field'. Ligurian *asia*, glossed 'rye' (Pliny H.N. 18.141: *secale Taurini sub alpibus asias vocant*) may also belong here if it is from **hasia*, in turn from **sasia*. Occurring only on the margins of the IE world, this may be an old word in PIE displaced by newer terms in the more central areas.

***iéuos ~ *iéuom** 'grain (particularly barley?)'. [*IEW* 512 (**ieuo-*); Wat 79 (**yewo-*); GI 565 (**yewo-*); Buck 8.42; BK 469 (**yiw-/*yew-*)]. Lith (pl.) *javaĩ* 'grain' (cf. *jáuja(s)* 'barn' with secondary accent), Latv *jaũja* 'threshing barn', Rus *ovín* 'granary', Grk (pl.) ζειαί 'an inferior sort of wheat (einkorn or emmer wheat, *Triticum monococcum* or *T. turgidum*)', Hit *ewan* '± barley', Av *yava-* 'grain', *yəvīn-* 'grainfield', NPers *jav* 'barley', Oss *jæw* 'millet', Ashkun *yū* 'barley, millet', OInd *yáva-* 'bread; grain, particularly barley'. From **ieu-* 'ripen, mature (intr.)' otherwise seen in TochB *yu-* 'ripen, mature'. TochB *yap* 'millet' may belong here as well if there was an early dissimilation of manner in **iéuom* to give **iéb(h)om*. The usual assumption that *yap* is a borrowing from OInd *yáva-* is made problematic by the difference in meaning ('millet' rather than 'barley') and the unexpected phonological outcome (a borrowed *yáva-* might be expected to give TochB **yāp* or even **yāw*). This is probably the oldest word reconstructible for 'grain' and 'kernel' in PIE.

***ĝr̥h$_a$nóm** 'grain'. [*IEW* 390–391 (**ĝr̥-no-m*); Wat 24 (**gr̥ə-no-*); GI 600 (**k̂'r̥-no-*); Buck 8.42; BK 284 (**k'ir^y-/*k'er^y-*)]. OIr *grān* 'grain', Wels *grawn* 'grain', Lat *grānum* 'grain', ON *korn* 'grain', OE *corn* 'grain' (> NE *corn*), OHG *korn* 'grain', Goth *kaúrn* 'grain', OPrus *syrne* 'grain', Lith *žìrnis* 'pea', Latv *zir̃nis* 'pea', OCS *zrĭno* 'grain', SC *zȑno* 'grain', Alb *grurë* 'wheat' (if not a borrowing from Lat *grānum*), Pashto *zaṇai ~ zaṛai* 'kernel, seed'. Cf. the morphologically identical, but independent, creation in OInd *jīrṇá- ~ jūrṇá-* 'old, worn

out'. From **ĝerh$_a$-* 'ripen', age' (intr.). A younger word than **i̯éu̯os*, with similar meaning 'ripened grain', which has replaced it in most of the west and center of the IE world and competes with it in Iranian.

***h$_2$ed-** 'grain, barley'. [*IEW* 3 (**ades-*); GI 564 (**Hat'-*); BK 181 (**ħac'-/*ħəc'-*)]. Lat *ador* 'coarse grain; spelt; barley' (a term generally restricted to use in religious rituals where it is used for 'barley', typically dried, mixed with salt, and used for aspersion), *adōreum* 'barley', OHG *ezzisc* ~ *ezzesc* 'sown grainfield', NDutch es ~ *esch* 'cultivated fields belonging to a village', Goth *atisk* 'grainfield', Arm *hat* 'grain', *hačar* (< **h$_2$edy-*) 'barley'. Sufficiently widespread to guarantee PIE status. This word is also connected by some with Iranian **ādu* 'grain' in Av *āδū.frāδana-* 'abounding in grain', Buddhist Sogd *"dwk* (< **āduka-*) 'grain'. However, it may be that **ādu* is a derivative of **h$_1$ed-* 'eat'. Less likely, though accepted by many, is a connection with TochA *āti* 'grass', TochB *atiyā-* 'grass'. The Tocharian words are semantically divergent and may well reflect descent from **h$_2$et-* 'cut' (cf. OIr *āith* 'sharp, acute' and for the semantics of OInd *tŕ̥ṇam* 'grass' but NE *thorn*). Watkins connects the words for 'grain; barley' with Hit *hat-* (< PIE **h$_2$ed-*) 'dry' (intr.) and an original meaning of '± parched stuff' > 'grain'. Lycian *xθθase* (< pre-Lycian **hadahaśa-* < Proto-Anatolian **hadasak̂a-*) '± hay, fodder' would provide a partial semantic parallel (*'dried stuff' > 'hay'). If these words for 'grain' are related to 'dry' the semantic development would have been PIE in age.

***dhoh$_x$néh$_a$-** 'grain'. [*IEW* 242 (**dhōnā-*); GI 770 (**d^{h}oHnā-*); Buck 8.42; BK 70 (**diy-/*dey-*)]. Lith *dúona* 'bread', Latv *duōna* 'hunk of bread', NPers *dāna* 'grain', OInd *dhānā́s* (pl.) 'kernels of grain; fried grain reduced to a powder', *dhānyám* 'grain', TochB *tāno* 'grain, kernel'. Unlikely to be connected with either **dheh$_1$-* 'place, put' or **dheh$_1$(i)-* 'suckle'; GI have attempted to derive it from Proto-Semitic **duḫn-* 'millet'. Largely eastern in its distribution, this word may have been a dialectal competitor for **i̯éu̯os*.

***dŕ̥h$_x$u̯eh$_a$-** '± grain'. [*IEW* 209 (**dr̥̄-u̯ā*)]. Gaul *dravoca* 'darnel, rye-grass (*Lolium*)', ME *tare* 'vetch (*Vicia sativa* or *V. hirsuta*), tare (*Lolium* spp.)' (> NE *tare*), MDutch *tarwe* 'wheat', NDutch *tarwe* 'wheat' (the Germanic forms with new full-grades), OInd *dū́rva-* 'panic-grass (*Cynodon* [= *Panicum*] *dactylon*)'. Distribution indicates a word old in IE. Perhaps related are Grk (Delphic) δαράται (pl.) 'bread', (Thessalonian) δαράτον 'bread' (if < **dr̥h$_x$-to-* 'of grain'). Although sometimes cited, Lith *dìrva* '(arable) field', Latv *dirva* 'grain-field', Rus *derévnja* 'village (without a church)', (dialectally) 'piece of a field' are better derived from **der-* 'split off'.

?*h$_{2/3}$(e)lĝ(h)- 'grain' (or 'millet'?). [cf. Puhvel 3:39]. Anatolian Grk ἄλιξ 'spelt' (borrowed from some Anatolian source), Hit *halki-* 'barley; grain', Lycian *Qelehi-* 'of the grain-god' (< Proto-Anatolian **halĝi-*), NPers *arzan* 'millet' Pashto *ǧdən* (< Proto-Iranian **arzana-*) 'millet'. If the Anatolian and Iranian words reflect a PIE **h$_{2/3}$lĝ(h)-*, it would be possible to add TochB *lyekṣye* 'millet' if, in turn, it is from a PIE **h$_{2/3}$lēĝ(h)i-ki̯o-*. If all these words belong together, then we have evidence for something old in IE. Whether the word was 'grain' as in Anatolian or more specifically 'millet' as in Iranian and Tocharian is difficult to determine.

***h$_a$ek̂es-** 'ear of grain'. [*IEW* 21-22 (**ak̂es-*); Wat 1 (**ak-*); BK 398 (**ħuk[^{h}]-/*ħok[^{h}]-*)]. Lat *acus* 'chaff', ON *ax* 'ear', OE *ēar* 'ear' (> NE *ear*), OHG *ahir* 'chaff', Goth *ahs* 'ear', Grk ἄχνη (< **h$_a$eksneh$_a$-*) 'chaff', (Cypriot) ἀκοστή 'barley', TochA *āk* 'end', TochB *āke* 'end'. From **h$_a$ek̂-* 'point, sharp'. Widespread and old in IE.

***h$_a$ekstí-** '± awn, bristle'. [*IEW* 22 (**ak̂-sti-*); BK 398, (**ħuk[^{h}]-/*ħok[^{h}]-*)]. Wels *eithin* (< **akstīno-*) 'furze', Lith *akstìs* 'spit (for roasting)', *ākstinas* 'prickle; stimulus, impulse', OCS *ostĭnŭ* 'pale, stake; thorn', Rus *ostĭ* 'point, bristle, awn, chaff', TochA *āśc* 'head', TochB *āśce* 'head'. Cf. OPrus *ackons* 'awn, bristle'. Widespread and old in IE.

See also Agriculture; Barley; Food; Grow; Millet; Oats; Plants; Rye; Wheat. [D.Q.A.]

Further Reading

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GRANDDAUGHTER

***neptíh$_a$-** 'granddaughter'. [*IEW* 764 (**neptī-*); Wat 44 (**neptī-*); GI 670 (**nep^{h}ot^{h}iā*); Buck 2.49; Szem 10; Wordick 166–167; BK 573 (**n^{y}ip[^{h}]-/*n^{y}ep[^{h}]-*)]. OIr *necht* 'granddaughter; (?niece)', Wels *nith* 'niece', Corn *nýth* 'niece', Bret *niz* 'niece; nephew', Lat *neptis* 'granddaughter, female descendant' (in later Imperial and Medieval Latin, also 'niece'), ON *nipt* 'sister's daughter', OE *nift* 'niece; granddaughter; step-daughter', Fris *nift* 'granddaughter', OHG *nift* 'granddaughter, step-daughter', Lith *neptė* 'granddaughter; niece', ORus *nestera* 'niece', Alb *mbesë* (< **nepóti̯eh$_4$-*) 'granddaughter; niece', Grk ἀνεψιά 'female cousin' (< **sm̥-nept-i̯h$_a$-* 'co-granddaughter'), Av *naptī-* 'granddaughter', OInd *naptī́-* 'granddaughter'. Although derived from the masculine form of this word, the distribution indicates that this word for 'granddaughter' was of PIE status. Derivatives: OCS *netijĭ* 'nephew' < **nept-ii̯o-*; Grk (Hesychius) νεόπτραι . υἱῶν θυγατέρες 'sons' daughters'.

In the northern and western stocks of IE the PIE word for 'granddaughter', **neptih$_a$-*, also came to mean 'niece' (nowhere is it demonstrably only 'sister's daughter'). However, the fact that that change in Latin postdates the classical Latin period may suggest that the extension to 'niece', despite its widespreadness, was not of PIE date. If the extension was first to 'sister's daughter' (whether in PIE itself or independently in the northern and western stocks) we have evidence for one of the characteristic features of Omaha kinship systems, the equation of daughter's and sister's children.

See also Grandson; Kinship. [M.E.H.]

GRANDFATHER

***h$_2$euh$_2$os** 'grandfather'. [*IEW* 89 (**au̯o-s*); GI 668 (**HauHo-*); Buck 2.46; Szem 7; Wordick 90–92; BK 416

(*ħaw-)]. Lat *avus* 'grandfather' (and *avia* 'grandmother'), ON *afi* 'grandfather; forefather', NHG (dial.) *awwe* 'grandfather' (ON and NHG as if < *$h_2$euh$_2$o-on-), Goth *awō* (< *$h_2$euh$_2$-eh$_a$-n-) 'grandmother', Arm *haw* 'grandfather', Hit *ḫūḫḫas* 'grandfather', HierLuv *huha-* 'grandfather', Lycian *xuga* 'grandfather', TochB *āwe* 'grandfather' (or 'uncle'?). Compare also OIr *aue* (*DIL ūa*) (as if < *$h_2$euh$_2$iio-, later *ūa* ~ *ōa* ~ *ō*) 'grandson' (with semantic reversal through reciprocity of terms). Widespread and old in IE.

??*suh$_x$sos 'grandfather'. [Jokl 1923:28; BK 169 (*s^yaw-/ *s^yəw-)]. Alb *gjysh* 'grandfather, *gjyshe* (as if < *suh$_x$siieh$_a$-) 'grandmother', OInd *sūṣā́* 'paternal grandmother' (?). This Albanian-Indic equation is tantalizing but uncertain. The Old Indic word occurs but once in the *Atharvaveda* and has been translated (by contextual and etymological guesswork) as 'paternal grandmother' and 'parturient woman'. If 'paternal grandmother' should turn out to be correct, it is still not certain that the more restricted meaning in Old Indic is not an innovation in that stock. From *seuh$_x$-* 'bear, beget'.

It has often been thought that *$h_2$euh$_2$os* might originally have meant exclusively 'mother's father' rather than 'grandfather' in general and also to have meant 'mother's brother' as would be expected in an Omaha system of kinship terminology where the two relatives are often terminologically equated (though not, it should be pointed out, in Omaha itself). Certainly all the attested descendants of *$h_2$euh$_2$os* clearly mean 'grandfather' (in general) rather than just 'mother's father'. Moreover, it seems quite remarkable that the early Indo-Europeans, who were normally virilocal and resided with paternal relatives, would have kept and, indeed, generalized a word for their 'mother's father' whom they might have seldom an occasion to see and so thoroughly abandoned the term for 'father's father' with whom they would have been in far more frequent contact. Particularly telling perhaps is that we find *$h_2$euh$_2$os* joined with generation markers, e.g., Plautus (*Miles Gloriosus* 373) *ibi mei maiores sunt siti, pater, avos, proavos, abavos* 'there is where my ancestors lie—father, grandfather, great-grandfather, great-great grandfather'. It would be very strange to presume that these originally referred to the maternal line when the entire reason for such terms was to trace one's descent through the paternal line.

The major piece of evidence that *$h_2$euh$_2$os* may originally have meant 'mother's father; mother's brother' is that in many stocks derivatives of *$h_2$euh$_2$os* do, in fact, mean 'mother's brother'. Thus we have MWels *ewyth(y)r* 'uncle', Bret *eontr* 'uncle', Corn *ewnter* 'mother's brother', Lat *avunculus* 'mother's brother' (Italic and Celtic as if < *$h_2$euh$_2$-n-tlo-* with Celtic showing a change of *-l- to *-r-), OE *ēam* '(maternal) uncle' (> NE *eme* [preserved in Scotland]), Fris *ēm* 'mother's brother', NDutch *oom* 'uncle', OHG *ōheim* 'mother's brother' (< Proto-Gmc *au(n)-haima-* whose first element is *$h_2$euh$_2$o-* but whose second element is somewhat obscure), OPrus *awis* 'uncle' (specifically 'mother's brother'?), Lith *avýnas* 'mother's brother', OCS *ujĭ* 'mother's brother' (cf. the further derivative *ujka* 'aunt') (Balto-Slavic as if < *$h_2$euh$_2$iio-*). Just possibly belonging here is Alb *vëlla* (as if < *$h_2$euh$_2$ó-dhel-eh$_a$-*) 'brother' (and if originally a cousin term). It is noteworthy that none of these specific terms for 'mother's brother' can be reconstructed to PIE itself; at most we have Italo-Celtic, Germanic, Balto-Slavic innovations. It is, however, also noteworthy that these (north)western innovations consistently mean 'mother's brother' (occasionally generalized in historic times to 'uncle') and never 'father's brother'. That such terms which, from the point of view of their morphology, mean 'little grandfather' or 'he of the grandfather' does suggest that the word from which they are derived should mean 'mother's father' rather than 'grandfather' in general. It might also be suggested that that 'little grandfather' was restricted *pragmatically* to the 'mother's brother' because 'father's brother' had been pre-empted by a special term, e.g., Lat *patruus* 'father's brother' or OE *fædera* 'father's brother'. However, it is often forgotten that the Omaha tendency to equate 'mother's brother' with 'mother's father' can be operative even if, as indeed is more generally the case, 'mother's father' is not distinguished from 'father's father' (e.g., as in Tzeltal or Southeastern Wintun). GI, on the other hand, suggest that *$h_2$euh$_2$os* meant 'father's father' (and not 'grandfather' in general) and 'mother's brother' because those two relatives had the same role from ego's point of view in a society whose preferred marriage pattern was that of the dual exogamous marriage of cross-cousins (where a man can marry his mother's brother's daughter or his father's sister's daughter, both of whom belong to the other lineal group). Their theory, like that of the "strict Omahaists", is made difficult by the almost certain reconstruction of *$h_2$euh$_2$os* as 'father's father' *and* 'mother's father'.

See also GRANDSON; KINSHIP; UNCLE. [M.E.H., D.Q.A.]

Further Readings

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GRANDMOTHER

$h_2$en- 'father's mother'. [*IEW* 36–37 (*an-); Wat 2 (*an-); GI 668 (*Han-); Buck 2.47; Szem 8; Wordick 96–97; BK 454 (*an^y-)]. OHG *ana* 'grandmother', Goth *anō* 'grandmother', OPrus *ane* 'female ancestor', OCS *vŭnǫkŭ* 'grandfather', Rus *vnuk* 'grandfather' (< Proto-Slav *ononko- < PIE *$h_2$en-$h_2$en-ko-), Grk ἀννίς 'grandmother', Arm *han* 'grandmother', Hit *ḫannas* 'grandmother', Lycian *xñnahe/i-* 'of a grandmother', OPers *nyākā* (< *h_2n-ieh$_a$-keh$_a$-*) 'grandmother'. A word, probably ultimately derived from child-language, which is widespread and old in IE. Only in Anatolian and Armenian is this word phonologically distinct from *$h_4$en-* '(old) woman' as seen in OIr *Ana* 'mother of the gods', Lat *anus* 'old woman', Hit *annas* 'mother', Palaic *ānnas* 'mother', Luv *ānna/i-* 'mother', Lydian *ēna-* 'mother', Lycian *ēne/i-* 'mother'. It seems likely that the form of *$h_2$en-* 'grandmother' has been influenced by that of *$h_2$euh$_2$os* 'grandfather'

(compare the alliterating pairs in Hittite of *attas annas* 'father and mother' and *hūhhas hannas* 'grandfather and grandmother').

?$*h_2euh_2ih_a$- 'grandmother'. [cf. *IEW* 89; Wordick 100; BK 416 (**ħaw-*)]. Lat *avia* 'grandmother'; Alb *joshë* (< $*h_2euh_2i̯éh_a$-$si̯eh_a$-) 'maternal grandmother', Grk (Hesychius) *αἶα* 'the aunt or foster-mother' ('among the Cyrenaeans'). None of these equations is certain. The Latin word, for instance, may reflect an inner-Italic development, the creation of a feminine form to *avus* in the same way that *frātria* 'brother's wife' was created from *frāter* 'brother'. A possible word of the west and center of the IE world.

***seno-meh$_a$tḗr** 'grandmother'. [*IEW* 907–908 (**seno-mātēr*); Buck 2.47]. OIr *senmāthair* 'grandmother', Lith *senmotė* 'grandmother'. Possibly independent creations in Celtic and Baltic.

Those who support the contention that Proto-Indo-European kinship terminology was originally unilineal and that $*h_2euh_2os$ originally designated only the 'mother's brother, mother's father' (and not a relative on the paternal line), cite the Latin, Albanian and Greek forms as obvious feminizations of $*h_2euh_2os$. Another term, $*h_2en$-, is more widespread and may reflect an original patrilineal term although the Greek cognate may refer to either the maternal or paternal grandmother. Those who support the unilineal hypothesis would then argue that as bilaterality became more common, a compound, *'old mother' was developed in Celtic and Baltic to cover both sides of the family. In other cases each stock either created a new term or expanded one of the old terms to take in the grandmother on the other side of the family.

See also GRANDFATHER; KINSHIP. [M.E.H., D.Q.A.]

GRANDSON

***népōts** (gen. ***népotos**) 'grandson; ?sister's son'. [*IEW* 764 (**nepōt-*); Wat 44 (**nepōt-*); GI 669 ($*nep^h ōt^h$-); Buck 2.48; Szem 9; Wordick 155–165; BK 573 ($*n^y ip[^h]$-/$*n^y ep[^h]$-)]. OIr *nia* ~ *niae* 'sister's son, grandson, descendant', Wels *nai* 'nephew', Corn *noy* 'nephew', MBret *ni* 'nephew', Lat *nepōs* 'grandson, granddaughter, descendant' (in later Imperial and Medieval Latin also 'nephew'), ON *nefi* 'descendant', OE *nefa* 'grandson, sister's son', OHG *nefo* 'sister's son; (paternal/maternal) cousin', Lith *nepuotis* 'grandson' (once apparently 'niece'!, never 'nephew'), Alb *nip* 'grandson, nephew', Grk *νέποδες* 'descendants' (*Od* 4.404; the erroneous *δ* was backformed from **νέπως*, the regular nominative, when identity of the stem-final consonant was no longer certain), Av *napāt-* 'grandson, descendant', OPers *napā* 'grandson, descendant', OInd *nápāt* 'grandson, descendant'. Clearly of PIE status. Derivatives: OCS *netijĭ* 'nephew' < **nept-i̯o-*; Grk *ἀνεψιός* 'cousin' (< **sm̥-neptii̯o-* 'co-grandson'), Wels *cefnder* 'male cousin', *cyfnither* 'female cousin' (< **kom-nepōt-* and $*kom$-$neptih_a$- 'co-grandson and co-granddaughter' respectively).

This has been both widely and justly regarded as one of the more critical words concerning the reconstruction of the PIE kinship system. One of the major distinctions between the Omaha type, that which is attributed to PIE by a number of scholars, and other possible kinship systems, is that in the Omaha system one may expect there to be generational skewing where we should find the same term for 'sister's son' (NE 'nephew') as 'daughter's son' (NE 'grandson'). As the semantic range of the cognates derived from **népōts* appears to embrace both 'grandson' and 'sister's son', this composite reference has provided support for the ascription of the PIE kinship system to the Omaha type (generational skewing also occurs in the Crow type but as the Crow type is almost exclusively matrilineal there are no grounds for ascribing it to PIE). This interpretation, however, is by no means universally accepted.

The existence of this nepotic skewing rule has been challenged on the basis of the actual linguistic evidence. That **népōts* designated the 'grandson' is agreed by all; it is whether we have any right to assume also a meaning of 'sister's son, nephew' is what is at dispute. The evidence for such is proposed for Celtic, Latin, Germanic, Baltic and Slavic. Opponents to the extension of **népōts* to 'nephew' emphasize that this meaning is nowhere found in Indo-Iranian.

The Celtic languages uniformally attest the meaning 'nephew' although traces of 'descendant' may exist in MWels *keiv(y)n* (< **kom-* + **népōts*) 'third cousin' (< *'co-descendant of a common ancestor'). The use of Latin *nepōs* to designate 'nephew' is only found in texts of the third century AD and later and even then did not carry on into all the Romance languages where Spanish *nieto* and Portuguese *neto* both indicate only 'grandson'. This has suggested that the meaning 'nephew' was secondary and developed independently in Latin. A similar explanation has been extended to Germanic where OHG *nefo* (and its feminine forms) designate only the 'grandson, descendant' and 'nephew' only emerges in Middle High German. Only OE *nefa* means both 'grandson' and 'nephew' from its earliest attestation. The Baltic evidence rests on OLith *nepuotis* which almost invariably indicated 'grandson' (there is one very problematic reference to it designating 'niece'!). This leaves Slavic which is already among the latest attested IE stocks and where, it is argued by critics of the nepotic skewing rule, the shift from 'grandson' to 'nephew' had already been completed. Hence those who challenge the reconstruction of the Omaha system for PIE argue that **népōts* originally indicated the 'grandson, descendant' and that the meaning 'nephew' is a later development occurring independently within some of the various IE stocks. Why such similar but independent developments took place across a number of stocks has been explained with reference to a similar shift, again controversially argued, where 'grandfather' came to designate 'mother's brother'. This occurs in the same dialects that saw the shift from 'grandson' to 'nephew'. Such a change between reciprocal categories of kin would be entirely expected; what is not so entirely convincing is the reason for this change. Heinrich Hetterich has suggested that the shift

from a more mobile settlement pattern to an increasingly sedentary one would have made certain relationships between groups related by marriage more continuous and intense and may have demanded the coining or extension of new kinship categories. This argument rests entirely on an undemonstrated premise concerning the evolution of both the IE economy and residence patterns.

Efforts to etymologize **ne-pot-* as 'powerless' (< **ne-* 'not' + **potis* 'independent, dominating', i.e., young unmarried male of extended family) are pointless as the correct segmentation revealed by the feminine forms is **nep-ot-* in which *-ot-* is the same nominal suffix found in Germanic **mēnōþ-* 'month' (from 'moon') or Hit *sīw-att-* 'day' (from 'daytime sky').

See also Kinship; Nephew; Uncle. [M.E.H., J.P.M.]

Further Readings

Beekes, R. S. P. (1976) Uncle and nephew. *JIES* 4, 43–63.

Hetterich, H. (1985) Indo-European kinship terminology in linguistics and anthropology. *Anthropological Linguistics* 27, 453–480.

GRASS

***u̯el-** 'grass'. [*IEW* 1139–1140 (**u̯el-*); Buck 8.51]. Wels *gwellt* 'grass', OPrus *wolti* 'head of grass', Lith *váltis* 'oat panicle', Hit *wellu(want)-* 'grass'. Cf. also OCS *vlasŭ* 'hair, particularly human headhair' and OInd *válśa-* 'branch, sprout'. Rather sparsely attested; however, its geographical distribution assures its antiquity within IE. Probably the oldest word we can reconstruct for 'grass'. Within the cosmological system of the early Indo-Europeans, grass is an alloform of hair, i.e., in the stories of the creation of the universe, grass is formed from the hair of the primeval giant. Similarly, in cures for baldness, grass is applied to stimulate the regrowth of hair.

***k̑oino-** 'grass'. [*IEW* 610 (**k̑oi-no-*); Buck 8.52]. Lith *šiẽnas* 'hay', Latv *siens* 'hay', OCS *sěno* 'hay, fodder, grass', Grk (Hesychius) *κοινά* (pl.?) 'grass'. At least a late term used in the central area of the IE-speaking world.

See also Cosmology; Feed; Plants; Field; Hair; Medicine. [D.Q.A.]

GRAY

***k̑as-** 'gray'. [*IEW* 533 (**k̑ās-*); Wat 27 (**kas-*); GI 136]. Wels *ceinach* (< **k̑asnī* + *āko-*) 'hare', Lat *cānus* (< **k̑asno-*) 'gray', Osc *casnar* 'old', ON *hǫss* (< **k̑asu̯o-*) 'gray, brown', *heri* 'hare', OE *hasu* (< **k̑asu̯o-*) 'gray, brown', *hara* 'hare' (> NE *hare*), OHG *haso* 'hare', OPrus *sasins* 'hare', Khot *saha-* 'hare', OInd *śaśá-* (< **śasa-*) 'hare'. The hare is originally the 'gray one' or the like (cf. Lith *šir̃vis* 'hare' to *šir̃vas* 'gray'). Widespread and old in IE. That the connections between this word and that of the hare are so close among the various stocks suggests that the word cannot be included as a "primary" color term as one might expect in a Stage VII system.

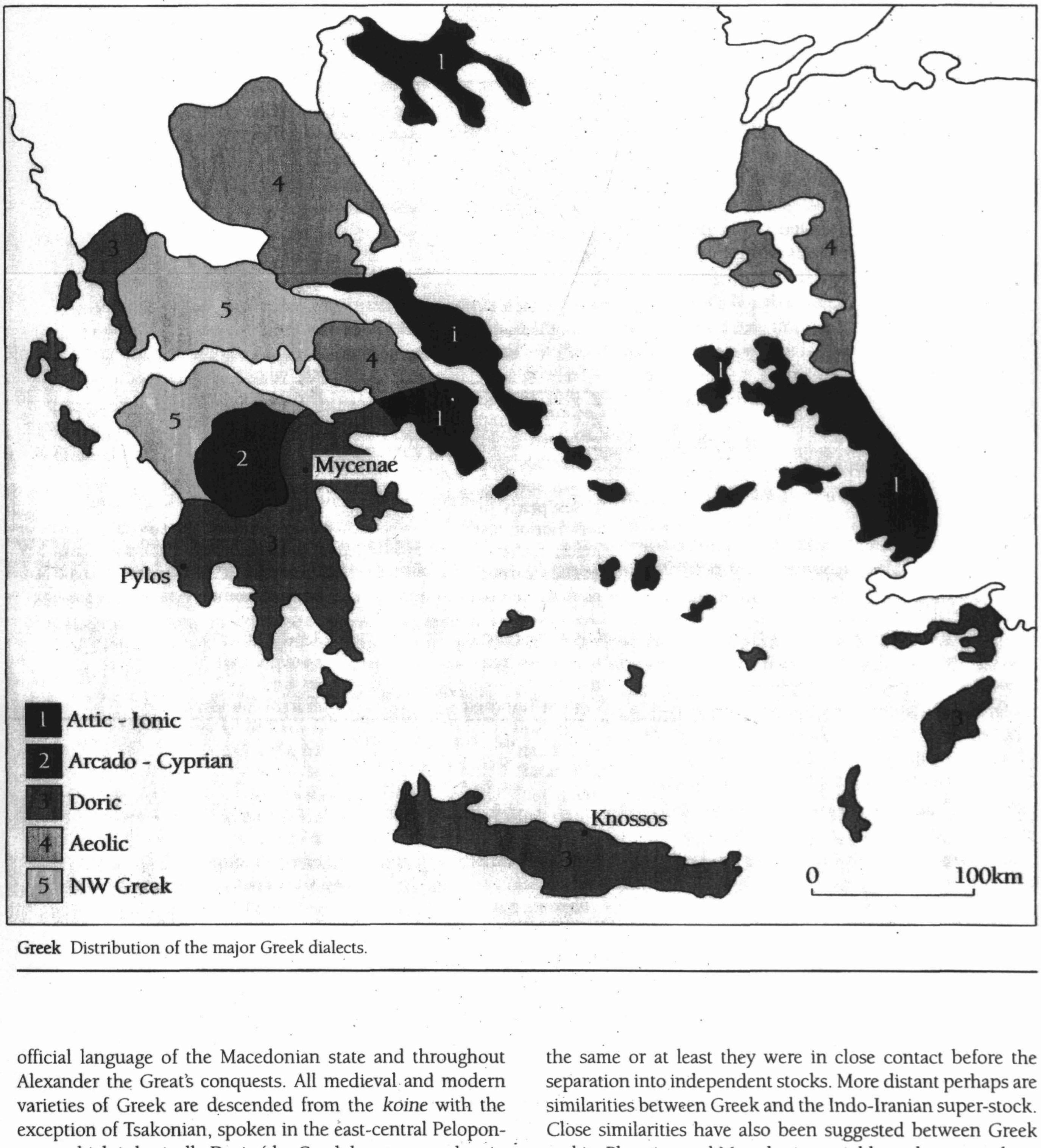
See Black; Color; Hare. [D.Q.A.]

GREEK LANGUAGE

The earliest certain evidence of the Greek language appears in the Linear B tablets known from Crete (Knossos) and mainland Greece (Mycenae, Tiryns, Pylos, Thebes) which date to about the thirteenth century BC. Written in a syllabic script, these tablets number several thousand and are largely confined to economic records of the late Bronze Age Mycenaeans whose palace-based civilization collapsed in the twelfth century. The Linear B texts are written in the official palace language, a chancery language employed uniformly by the late Bronze Age civil service both on Crete and in the mainland Greek palaces.

The collapse of Mycenaean civilization ushered in a "Dark Age" where the art of writing in Greek was lost. When written records in Greek resume, during the Iron Age between 825 and 750 BC, they are written in the familiar Greek alphabet, a script based on that of the Phoenicians. "Alphabetic Greek" had at first no uniform standard. Each city-state and its citizens wrote in the variety of Greek appropriate to the local area. These varieties can be grouped into several larger scale dialect areas. On both sides of the northern part of the Aegean Sea were the Aeolic dialects. Southward from them on the Asia Minor coastline and extending to many of the southern Aegean islands (including Euboea) were the Ionic dialects. In Attica was the very similar Attic of Athens. (Attic-Ionic are distinguished from all other Greek dialects by the change of original **ā* to **ē*.) Widely separated in Arcadia in the Peloponnese and on Cyprus was the Arcado-Cypriot group, a group which was linguistically closest to the Mycenaean chancery language. All of these, Aeolic, Attic-Ionic, and Arcado-Cypriot can in turn be arranged together as "East Greek" and contrasted with "West Greek". East Greek dialects are diagnostically distinct by a change of original **-ti* to *-si* (e.g., Attic ***δίδουσι*** 'they give' but West Greek ***δίδοντι***). The West Greek group is composed of Doric, found in the Peloponnese and throughout the southern islands (including both Crete and Rhodes) and the closely related Northwest group extending up the western half of the Greek mainland as far as Corfu. The Doric dialect wedge looks to be intrusive, and was certainly spoken in areas that in Mycenaean times spoke a very different kind of Greek. It was traditionally assumed that it was a Doric migration/invasion that brought down the Mycenaean civilization. The Homeric dialect of the *Iliad* and the *Odyssey* stands somewhat apart. It is an East Greek dialect with both Aeolic and Ionic components (including a late Attic veneer in some cases) that was the speech of no local community but rather a pandialectal variety of Greek that had grown up on the coast of Asia Minor and in which epic poetry was composed.

The dominant variety of Greek from late classical times on was a form of Attic, influenced by the closely related Ionic, called *koinē* or 'common' language. Its gradual acceptance as the normative variety of Greek, first in Ionia and later elsewhere, was aided by the cultural and military prestige of Athens and particularly by the adoption of the *koinē* as the



Greek Distribution of the major Greek dialects.

official language of the Macedonian state and throughout Alexander the Great's conquests. All medieval and modern varieties of Greek are descended from the *koine* with the exception of Tsakonian, spoken in the east-central Peloponnese, which is basically Doric (the Greek language spoken in the once Greek-speaking islands of southern Italy also shows some traces of Doric).

Greek is an independent IE stock but it does share certain similarities with other IE groups. A close relationship with Armenian has been regularly suggested (though not always accepted) indicating the possibility that at one time either the linguistic ancestors of the Greeks and Armenians were the same or at least they were in close contact before the separation into independent stocks. More distant perhaps are similarities between Greek and the Indo-Iranian super-stock. Close similarities have also been suggested between Greek and its Phrygian and Macedonian neighbors; however, these latter are so poorly attested that any meaningful conclusions are difficult to substantiate.

Description

In general, Greek, whether ancient or modern, is a conservative representative of Proto-Indo-European. Ancient Greek is arguably the phonologically most conservative IE

Proto-Indo-European and Greek Phonological Correspondences

PIE		Grk	PIE	Grk
*p	>	p	*ph̥$_a$tḗr* 'father'	πατήρ 'father'
*b	>	b	*bel-* 'strong'	βελτίων 'better'
*bh	>	ph	*bhréh$_a$tēr* 'brother'	φρᾱτρία 'clan'
*t	>	t	*tritos* 'third' '	τρίτος 'third'
*d	>	d	*dóh$_3$rom* 'gift'	δῶρον 'gift'
*dh	>	th	*dhur-* 'door'	θύρᾱ 'door'
*k̂	>	k	*dek̂m̥* 'ten'	δέκα 'ten'
*ĝ	>	g	*ĝónu* 'knee'	γόνυ 'knee'
*ĝh	>	kh	*ĝheimen-* 'winter'	χεῖμα 'winter weather'
*k	>	k	*kor-* 'war'	κοίρανος '(war) leader'
*g	>	g	*h$_3$lígos* 'sick'	ὀλίγος 'little, small'
*gh	>	kh	*h$_3$mighleh$_a$-* 'mist'	ὀμίχλη 'fog, mist'
*kʷ	>	*p ~ t*	*leikʷe/o-* 'leave'	λείπω 'leave'
			kʷís 'who'	τίς 'who'
*gʷ	>	b ~ d	*gʷou-* 'cow'	βοῦς 'cow'
			gʷelbhus 'womb'	δελφύς 'womb'
*gʷh	>	ph ~ th	*gʷhónos* 'striking down'	φόνος 'murder'
			gʷhermós 'warm'	θερμός 'warm, hot'
*s	>	h ~ ø ~ s	*septḿ̥* 'seven'	ἑπτά 'seven'
			pésos 'penis'	πέος 'penis'
*i̯	>	h ~ z	*i̯aĝ-* 'honor, fear'	ἅζομαι 'stand in awe of'
			i̯ugóm 'yoke'	ζυγόν 'yoke'
*u̯	>	ø	*u̯óĝhos* 'carrier'	ὄχος 'wagon"
*m	>	m	*méh$_a$tēr* 'mother'	μήτηρ 'mother'
*n	>	n	*nokʷts* 'night'	νύξ 'night'
*l	>	l	*leĝe/o-* 'gather'	λέγω 'gather'
*r	>	r	*h$_1$rudhrós* 'red'	ἐρυθρός 'red'
*n̥	>	a	*n̥-* 'un-'	α- 'un-'
*m̥	>	a	*k̂m̥tóm* 'hundred'	ἑκατόν 'hundred'
*l̥	>	al	*ml̥dus* 'soft'	ἀ-μαλδύνω 'grow weak'
*r̥	>	ar	*k̂r̥d-* 'heart'	καρδίᾱ 'heart'
*i	>	i	*kʷís* 'who'	τίς 'who'
*e	>	e	*dék̂m̥* 'ten'	δέκα 'ten'
*ē	>	ē	*ph̥$_a$tḗr* 'father'	πατήρ 'father'
*a	>	a	*sal-* 'salt'	ἅλς 'salt'
*ā	>	ā	*méh$_a$tēr* 'mother'	μήτηρ 'mother'
*o	>	o	*ĝónu* 'knee'	γόνυ 'knee'
*ō	>	ō	*dóh$_3$rom* 'gift'	δῶρον 'gift'
*u	>	u	*i̯ugóm* 'yoke'	ζυγόν 'yoke'
*ū	>	ū	*mūs* 'mouse'	μῦς 'mouse'
*h$_1$	>	ø	*h$_1$es-* 'be'	ἐς- 'be'
*h$_2$	>	ø	*h$_2$óu̯is* 'sheep'	ὄ(ϝ)ϊς 'sheep'
*h$_3$	>	ø	*h$_3$ókʷih$_1$* 'eyes'	ὄσσε 'eyes'
*h$_4$	>	ø	*h$_4$órĝhis* 'testicle'	ὄρχις 'testicle'

language attested. It preserves all five PIE vowels (*i,e,a,o,u*—both long and short), the PIE free accent (except in verbs), and the distinction between the plain voiced stops (**b, *d, *g*, etc.) and their aspirated counterparts (**bh, *dh, *gh*, etc.), though the latter group appears in Greek as voiceless aspirates (*ph, th, kh*, etc.). The only major systematic changes undergone by Greek was the complete loss of laryngeals, the change of **s* and **i̯* initially to *h-* and the loss of these two and **u̯* in many other environments, and the change of **m̥* and **n̥* to *a* and the "distraction" **r̥* and **l̥* to *ar/ra* and *al/la* respectively (the placement of the vowel relative to the consonant originally dependent on surrounding sounds), though there is evidence that this latter change was not completed by Mycenaean times.

Greek is also morphologically conservative in preserving three numbers (singular, dual, and plural) in both noun and

verb (though the dual disappears during the course of classical times), three aspects (present, aorist, and perfect) and the distinction between active and middle/passive in the verb, and five cases (with traces of two others) in noun and adjective. It shares with Indo-Iranian and Armenian the presence of the "augment" (a prefix *e-*) before past tenses (imperfect, aorist, and plu-perfect). The presence of a subjunctive mood, distinct from the indicative and optative, also characterizes the southeastern group including Indo-Iranian and Greek but reappears in Celtic and Italic as well.

Greek Origins

The origins of the Greeks is a much debated topic and while there are a number of general issues that find some consensus, the specific issues of when and from where one may derive the earliest Greeks are very controversial. The presumption that the Greeks are intruders into their own territory is based on a number of lines of evidence. These include the Greeks' own tradition that they were later immigrants, having been preceded by a people known as the Pelasgians. There is also an abundance of non-Greek place names, e.g., Corinth, Knossos, Mycenae, Olympus, and allegedly non-Greek personal names, e.g., Athēnē, which have all suggested that Greece was occupied by a prior non-Greek population or variety of populations. Another line of evidence are the inscriptions in Linear A, the writing system that preceded that of the Mycenaean Linear B. Although many of the signs are similar to the Linear B signs, it has so far proved impossible to read these earlier inscriptions and although they cannot be attributed with any confidence to any known language (Anatolian and Semitic are popular candidates), the structure of their word-endings does not support their identification as Greek. Finally, there is the evidence of the Greek lexicon. On the one hand, Greek is remarkably conservative and participates very widely in the basic cognate sets that we can establish between the various IE stocks and no serious case has ever been presented to support the hypothesis that either its morphology or syntactic structure has been heavily influenced by a non-IE substrate. On the other hand, there is a substantial portion, estimated by some at greater than 50%, of the Greek vocabulary that cannot be compared with that of other IE stocks. An exercise in comparing translations of selected passages of the Bible (Mt 2 and Lk 15) in various IE languages revealed that the lexical items of non-IE or obscure origin numbered 15 for Russian, 34 for Lithuanian, 48 for Italian but 171 for Greek. The non-IE vocabulary in Greece has been attributed to a variety of sources: some form of non-IE Anatolian language or Semitic has been suggested for a number of the loanwords and there is little question that certain semantic spheres relied heavily on non-IE loans. Already in the Linear B tablets we find, for example, words for spices such as Myc *sa-sa-ma* (Grk *σησάμη* 'sesame'), and Myc *ku-mi-no* (Grk *κύμῖνον* 'cummin') and there is little doubt that Semitic languages, particularly Phoenician, were contributing not only many products but also lexical items to their Greek trading partners and rivals. It is clear then that many of the foreign words found in Greek may well have entered after the Greeks themselves were established. Of more importance are items of vocabulary that have been attributed to indigenous non-IE languages, sometimes designated as "Mediterranean" or "Aegean". This latter influence includes terms for native flora, e.g., cypress, laurel, chestnut, olive, and technological terms, e.g., brick, jar, oil flask, sword. That some of these terms reflect the names of either native plants or technological items that should have been known in Greece since the Bronze Age if not earlier has led to the supposition that the Greeks superimposed themselves on a non-IE substrate. The possibility of other IE stocks forming a substrate in Greece has also been suggested, e.g., Luvian or Pelasgian, the latter a largely hypothetical IE stock whose existence is supported primarily by elements of the Greek vocabulary that might be explained as IE if certain non-Greek sound laws are invoked, e.g., Grk *τάφος* 'grave' is cognate with Arm *damban* 'grave' and appears to continue PIE **dhm̥bhos* but Greek also yields a word *τύμβος* 'grave, tombstone'. This latter word cannot possibly be derived from the underlying PIE form according to the rules of Greek phonological development but proponents of the Pelasgian theory suggest that it is easily derivable if one employs a different set of phonological rules appropriate to Pelasgian, e.g., dissimilation of **dh* to **d* and then to *t*; PIE **m̥* > Pelasgian *um*; PIE **bh* > Pelasgian *b*. Although each individual word suggested by supporters of Pelasgian may be challenged, there does seem to be sufficient material to support the hypothesis that there was some form of IE substrate or adstrate in Greek. The historical circumstances of these borrowings, both with respect to when and where, remain elusive.

In terms of occupation, human or at least *Homo* populations have existed in Greece since at least 350,000 years ago but the time depth of IE suggests that Indo-Europeans should not have been present in Greece any earlier than the Neolithic, i.e., *c* 7000 BC. Archaeologists have variously suggested the following "windows" for the entrance of those IE speakers who later emerged as the historical Greeks: 1) the beginning of the Neolithic *c* 7000 BC; 2) the later Neolithic *c* 4500–4000 BC; 3) the beginning of the Bronze Age *c* 3000 BC; 4) the transition from Early Bronze Age II to Early Bronze Age III, *c* 2300 BC; and 5) the transition between the Middle Bronze Age and the Later Bronze Age *c* 1600 BC. An earlier theory that the Greeks did not penetrate Greece until the collapse of the Mycenaean civilization *c* 1100 BC has been obviated by the decipherment of the Linear B tablets as Greek.

The earliest of the proposed migrations derives circumstantially from Anatolia where the Neolithic economy and technology precedes that of Greece and is held to be the region from whence the agricultural economy penetrated Europe from the Near East. The evidence is circumstantial in the sense that while there are close similarities between early Anatolian farming sites and those of Greece, there is no clear "path" of migration from one territory to another, the western coast of

Anatolia being so far devoid of early Neolithic sites. Nevertheless, such an origin for the Greek Neolithic is widely held and it has proven far easier to accept than the proposal that the hunting-gathering populations of Greece independently domesticated plants and animals and developed the requisite agricultural technology.

There are a number of very serious problems with the Neolithic solution to Greek origins. By tying IE dispersals with the seventh millennium BC spread of agriculture from Anatolia, it requires the expansion and consequent differentiation of the IE stocks far earlier than is normally envisaged by linguists. It also would seem to require a chain of IE dialects/stocks such that Anatolian–Greek would be especially close, then Greek–Latin, all relationships unsupported by IE dialectology; conversely, such a model does nothing to accommodate the relationships between Greek and the stocks with which it does share many isoglosses, i.e., Armenian, Indo-Iranian. If the Greeks had occupied their historical seats since the seventh millennium BC, it is difficult to understand why we find apparently non-IE lexical items pertaining to the local environment and economic developments ascribed to the Neolithic and Bronze Age. Also, one might have expected the Linear A script to have been read as Greek if Crete had been (Proto-)Greek since the seventh millennium (when we find the Neolithic settlement of Knossos). Finally, there are certain basic items of the reconstructed IE vocabulary, established from cognate sets which include Greek evidence, that could not have been known to Neolithic Greek populations. The earliest evidence for both the horse and wheeled vehicles in Greece does not appear until after 3000 BC. For the Greeks to possess what would appear to be inherited words for these items, we must then presume that they borrowed them from an IE neighbor who still spoke Proto-Indo-European *and* that the language of the (Proto-) Greeks had also been preserved from any phonological change for millennia before they adopted these later words so that they remained undetectable as loan words. Later archaeological solutions to Greek origins may well fail because of a lack of persuasive evidence for intrusions while the Neolithic model fails because it seems conceptually incompatible with accommodating the linguistic evidence.

A second model would introduce Proto-Greeks at the beginning of the later Neolithic, *c* 4500–4000 BC. At this time there appears a shift in settlement type (there is admittedly limited evidence for this) where in place of earlier villages we find enclosed compounds with large structures which have been interpreted as the houses of elites. This pattern is seen in Thessaly at the sites of Dhimini and Sesklo. It is argued that this change from presumably egalitarian village settlement to the citadels of the elite reflects the type of social change that one might wish to associate with a new people superimposing themselves on the earlier inhabitants. More often, however, this shift in settlement type has been attributed to local evolutions of social complexity and there is no obvious foreign source for the later Neolithic cultures of Greece.

The third possible "intrusion" is posed for the period of the fourth and third millennia BC, a period concurrent with at least some of the linguistic estimates for IE time depth. Elsewhere in southeastern Europe we find evidence for the horse and wheeled vehicles although we have no hard archaeological evidence for these items from Greece at this time. Nevertheless, Greece appears to participate in an interaction sphere which also embraces northwest Anatolia, the east Balkans and the steppe and forest-steppe regions north of the Black Sea. This interaction is evident, for example, in the appearance of similar metal daggers (of copper or arsenical bronze) across this region and the appearance of a brief horizon of silver ornaments. There is some controversial evidence for a cultural break in northern Greece while southern Greece is seen to offer a more gradual transition from the late Neolithic to the early Bronze Age. This model presumes that under the guise of exchange patterns we might also include some population movements that carried languages into the Aegean from the north Balkans.

The fourth suggested horizon is the break between the early Bronze Age periods designated Early Helladic II and Early Helladic III (*c* 2300–2100 BC) where cultural change is accompanied or followed by the destruction of earlier sites. Innovations usually cited as evidence for intruders include a shift in ceramic styles with the appearance of the so-called "Minyan" ware, the appearance of two-roomed houses with an apsidal end, perforated stone axes, small clay anchors, and by the Middle Helladic period tumulus burial and the appearance of the horse. These various elements do not form a unified complex of intrusive features but derive variously from Anatolia (new ceramic styles) or north of Greece and appear to move through Greece progressively from north to south arriving last in the Peloponnese. This is also a period in which destruction horizons are known from a number of sites which some would attribute to IE movements. Many would argue that into this window have been lumped a variety of features and processes, some local and some foreign, that suggest some form of long-term progression of north to south contacts rather than evidence for a distinct wave of intruders.

The fifth possibility of Greek invasions is set to *c* 1600 BC with the appearance of the chariot in Greece. In this model, chariot warriors, whose remains can be found in the shaft graves of Mycenae, entered Greece from Anatolia where chariot warfare was earlier attested. The Hellenization of Greece is regarded then as the superposition of a ruling elite on the indigenous population as has also been suggested for the Indo-Aryan conquest of India. It could be added that surveys of the physical anthropology of Greek populations of the Bronze Age have so far yielded no solid case for a new population although those buried in the shaft-graves of Mycenae do appear more robust than their predecessors. Other arguments suggesting that the Mycenaeans do not reflect a natural evolution on Greek soil but came from outside Greece is the very nature of the shaft-graves themselves. They involve an impressive assortment of status items derived from

abroad and an emphasis on conspicuous consumption unparalleled in earlier Greek burials.

The chariot-warrior hypothesis rests to a considerable extent on the nature of the wheeled vehicle vocabulary of Greek. William Wyatt has contrasted the terminology associated with Homer's description of a horse-drawn chariot (*Iliad* 5.722–730) with that obtaining for the mule-drawn four-wheeled wagon (*Iliad* 24.266–275). The chariot terms, Wyatt argues, are IE while many of the terms pertaining to the wagon appear to lack an IE etymology. He concluded that chariot-using Indo-Europeans (Proto-Greeks) obviously knew the chariot when they arrived in Greece and probably brought it with them; on arrival, they encountered an earlier society who employed wagons and the Greeks borrowed the terms for the wagon from the native population.

This theory is also not without its weaknesses. That part of the vocabulary of the chariot employed in Homeric Greek that reflects inherited PIE words, e.g., *κύκλα* 'wheels', *ἄξων* 'axle', *ζυγόν* 'yoke', are generic terms and in other IE languages may refer to wagons (or in the case of 'yoke', plow-teams) as well as chariots. All those words whose semantic field is specific to the chariot, e.g., *κνήμη* 'spoke', *ἐπίσσωτρα* 'tires', may have underlying IE roots but these words do not have specific chariot-associated meanings in any other IE stocks. For this reason, while it is certain that we can reconstruct a PIE 'wheeled vehicle', there is no specific lexical support for a PIE 'chariot' and it seems likely that the Greeks shifted some of the the wagon terms to the chariot which was in existence in the steppe-lands since *c* 2000 BC if not somewhat earlier. The linguistic argument presumes that this shift is unlikely since this would require a model where the Greeks would so thoroughly have shifted their wagon terms to the chariot that they would have no inherited words left for the wagon and would then have had to adopt the non-IE vocabulary for the four-wheeled wagon. But this entire argument, as with so many arguments concerning loan-word vocabulary in Greek, implicitly presumes that the wagon terms in Homer come from a pre-Greek population in Greece. The Linear B tablets are of minimal use here since the only suggestion of a wagon is the appellative use of Myc *a-pe-ne-wo* (cf. Grk *ἀπήνη* 'wagon'). Given that the mule only began spreading across the Mediterranean into Greece from Asia in the first millennium BC, it is entirely possible that some of the specific terms relating to a mule-drawn wagon post-dated the arrival of the Indo-Europeans in Greece. In any event, the other Greek word for the four-wheeled wagon, Grk *ἅμαξα*, may well derive from a PIE $*h_2em\text{-}\mathring{h}_a\hat{k}s\text{-}ih_a$ 'wagon-chassis' (with cognates in Tocharian).

From an archaeological standpoint, an invasion of chariot warriors has only the appearance of the chariot to sustain it. The chariot begins to appear in Anatolia at about *c* 1950–1850 BC (seal impression from Karum Kanesh II) and chariots are known from the same period also in the Volga-Ural region. Other items of comparison are the disc-shaped bridle cheek-pieces which are attested in Mycenae from *c* 1600 BC and are found somewhat earlier in the steppe region. It seems difficult to deny that there were connections between the steppe, Anatolia and Greece, but precisely how these are to be explained is far from understood. A late Bronze Age intrusion of chariot-warriors might have introduced the Proto-Greek language from elsewhere but there is really no solid evidence of this intrusive culture other than the chariot and the cheek-piece, both of which could have represented technological diffusion. Other items suggesting long distant connections, e.g., the presence of Baltic amber in Mycenaean tombs, may well be explained by exchange systems and are difficult to link to either a steppe or Anatolian origin, and parallels such as the use of golden death-masks at Mycenae and the modelling of clay faces on Catacomb skulls in the steppe region seem more than a bit distant without intervening evidence.

Subsequent evidence for population intrusion, such as the appearance of crude pottery in the twelfth century after the collapse of the Mycenaean citadels, is usually associated with north-south movements within Greece itself which may be tied to the Dorian invasions of Greek tradition but are too recent to explain the arrival of the Greeks.

As to which, if any, of the proposed "intrusions" the Proto-Greeks should be attributed still seems impossible to determine.

See also INDO-EUROPEAN LANGUAGES; INDO-EUROPEAN HOMELAND; MACEDONIAN LANGUAGE. [D.Q.A. J.P.M.]

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GREEN

***k̂i̯eh$_1$-** 'deep intense shade, ± green'. [*IEW* 540–541 (*k̂ei-); Wat 28 (*kei-); GI 200 (*k̂^{h}ey- ~ *k̂^{h}y-eH-); Buck 15.67]. OE *hīw* (< *k̂ih$_1$-u̯o-) 'color' (> NE *hue*), *hǣwen* (< *k̂i̯eh$_1$-u̯o-no-) 'blue, purple, gray', OPrus *sywan* (< *k̂ih$_1$-u̯o-) 'gray', Lith *šývas* (< *k̂ih$_1$-u̯o-) 'light gray', *šė̃mas* (< *k̂ieh$_1$-mo-) 'blue-gray', OCS *sivŭ* (< *k̂ih$_1$-u̯o-) 'dark gray', *sinĭ* 'dark blue', SC *sinji* (*k̂ih$_1$-ni-) 'sea green', Alb *thinjë* (*k̂ih$_1$-ni-) 'gray', Av *syāva-* (in *Syāvaršan-* 'having dark horses' and other proper names), Khot *śāva-* 'copper', Sogd *š'w* (< *k̂i̯eh$_1$-u̯o-) 'dark-colored', OInd *śyāmá-* (< *k̂i̯eh$_1$-mo- = Lith *šė̃mas*) 'dark brown, dark green', *śyāvá-* (< *k̂i̯eh$_1$-u̯o-) 'brown', TochB *kwele* (< *k̂iu̯olo-) 'black, dark gray'. Distribution indicates PIE status.

***slih$_x$u-** 'plum-colored'. [*IEW* 965 (*(s)lī-); Wat 61 (*slī-); GI 615]. OIr *lī* 'color', Wels *lliw* 'color', Lat *līvor* (< *(s)leih$_x$u-es-) 'bluish color', OE *slāh* 'sloe' (> NE *sloe*), OHG *slēha* 'sloe' (Proto-Gmc *slaixwa- perhaps metathesized < *sloih$_x$u-ko-), Rus *slíva* (< *sleih$_x$-u̯o-) 'plum', SC *slȋv* 'plum-colored'. A word of the IE northwest. GI's suggestion that this color-term is derived from a word for 'lead' seen in Hit *suli(ya)-* 'lead' founders on phonological incompatibilities (we would expect Hit *s(a)liwa-).

***k̂er- ~ *k̂r̥u̯os** 'grayish blue, grayish green'. [*IEW* 573–574 (*ker- ~ *k̂er-), 582 (*k̂ē-ro-)]. Lith *šir̃vas* (< *k̂r̥-u̯o-) 'blue-gray', *šir̃mas* (< *k̂r̥-mo-) 'blue gray', Alb *thjer-më* (< *k̂er-u̯o-) '(blue)gray', *sur-më* (< *k̂r̥-u-) 'dark gray, black', Grk *κηρύλος* mythical sea-bird, often identified with the Halcyon, i.e., river kingfisher (which has greenish-blue plumage), OInd *śārá-* (< *k̂or-ó-) 'colored'. A word of the center and east of the IE world.

***modheros** 'madder; blue'. [*IEW* 747 (*modhro-); Wat 43 (*modhro-)]. ON *maðra* 'madder', OE *mædere* 'madder' (> NE *madder*), OHG *matara* 'madder', SC *modar* 'blue', Czech *modrý* 'blue', Hit *antara* (< *amtara < *matara-) 'blue'. Although not widely attested, the geographical distribution of those attestations would seem to guarantee PIE status.

After yellow, some form of green is the next color expected in the evolutionary color sequence proposed by Berlin and Kay. Under the designation GRUE one might also expect that various shades of blue, gray, violet and brown would also have been included. The root *k̂i̯eh$_1$-, which is found from Germanic to Indic and thus can be ascribed to Indo-European, may accommodate our expectations as it signifies the range of colors expected of GRUE in a third-stage color system. This word was replaced in the extreme northwest (Celtic, Italic) by a second root, *slih$_x$u-, probably derived from 'plum' or 'berry' in the more easterly languages of Germanic and Slavic. Lith *slȳvas* is a loan from Slavic. In all of these languages new words for 'green' (e.g., OIr *glas*, Lat *viridis*, Proto-Gmc *grōni-) are attested. The Celtic is a derivative of the root 'yellow', also found in Greek *χλωρός*, Baltic (Lith *žãlias*, Latv *zals*) and Slavic (OCS *zelenŭ*, Rus *zelёnyj*). In Hit *hahlawant-*, a root for 'grow', has given a term for 'green' as it did in Germanic. It has been suggested that Homeric Greek lacked a word for GREEN and possessed only a Stage II/III system (i.e., *μέλᾱς* [BLACK], *λευκός* [WHITE], and *ἐρυθρός* [RED]; *χλωρός* is regarded as a term for desaturated greens and yellows (= GROW). The number of innovations for GREEN found in other languages also warns against full acceptance of a PIE GREEN.

The third root, *k̂er-, found from the Baltic to the Aegean and into India, was often confused with 'gray' and thus probably referred to a less intense or lighter, grayish blue or green that is to be assumed for PIE. The same color may have been designated in Germanic by Proto-Gmc *grœ̄wa 'gray' perhaps cognate with Lat *rāvus* (if irregularly from *ĝhr(e)h$_1$-u̯o-) 'tawny'. If PIE GREEN is encoded in the above series of words whose attested meanings range from 'blue' and 'gray' to 'brown' and 'black', one can then posit a Stage IV system for PIE; without a PIE word for the primary color GREEN, we must presume a Stage III system.

The Slavic, Germanic, and Hittite words for 'blue' probably reflect *modheros 'madder' a plant employed in the manufacture of blue dye. *bhl(e)h$_1$uos, the source of Proto-Gmc *blœ̄wa- 'blue', is cognate with Lat *flāvus* (< *bhl̥h$_1$u̯os) 'yellow'.

See also **COLOR**; **YELLOW**. [M.E.H.]

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GREENS *see* VEGETABLES

GRIEVE

***reudh$_a$-** 'mourn, lament' (pres. ***réudh$_a$ti**). [*IEW* 867 (*reud-); Wat 54 (*reu-)]. Lat *rudō* 'roar, bellow, bray', ON *rauta* 'roar' (borrowed > NE *rout, root*), OE *rēotan* 'moan', OHG *riozan* 'weep, cry', Lith *raumi* 'mourn, lament', Latv *raûdât* 'mourn, lament', Slov *rydati* 'weep, cry; sob', Av *raod-* 'lament, moan', OInd *róditi* 'weeps, roars'. Cf. the widespread derivative *roudh$_a$os: OHG *rōz* 'cry', Lith *raudà* 'cry', OInd *róda-* 'cry'. Widespread and old in IE.

***glaĝh-** 'cry out, lament'. [*IEW* 350–351 (**glag-*)]. MIr *glām* (< **glaĝh-smeh$_a$-*) 'cry', OHG *klagōn* 'bewail, complain about', Av *gərəzaiti* 'lament, cry', OInd *gṛhati* 'laments'. An enlargement of **ghel-* 'cry out, sing'.

***h$_a$egh-** 'be afflicted, downcast, fearful; grieve' (perfect ***h$_a$eh$_a$óghh$_2$e** 'am afraid'). [*IEW* 7–8 (**agh-*); Wat 1 (**agh-*); Buck 16.53; BK 459 (**ħak'-/*ħək'-*)]. OIr *ad-āgathar* 'fears', ON *agi* 'terror', *ōgn* 'fright', OHG *akī* ~ *egī* 'terror', Goth *ōg* 'is afraid', *un-agands* 'unafraid', *af-agjan* 'be moved, frightened', Grk ἄχνυμαι 'am inflicted, grieve', ἄχθομαι 'am vexed, grieve', Av *aγa-* 'evil', OInd *aghá-* 'evil'. Cf. the widespread derivative **h$_a$eghlos*: '± affliction' in MIr *ālad* (< **h$_a$eghloto-*) 'wound', MWels *aeleu* (< **h$_a$eghlou̯o-*) 'pain', OE *eg(e)le* 'disagreeable, offensive', *eglan* 'inflict pain', *eglian* 'grieve' (> NE *ail*), Goth *agls* 'disgraceful', *aglō* 'tribulation', *agljan* 'harm', *aglus* 'difficult'; and the derivative **h$_a$eghes-* in OE *ege* 'fear', *egesa* 'fear', OHG *agiso* ~ *egiso* 'terror', *egisōn* 'terrify', Goth *agis* 'fear, anxiety, terror', Grk ἄχος 'mental affliction or pain'. Widespread and old in IE.

***leug-** 'grieve, be pained'. [cf. *IEW* 686 (**leuĝ-*)]. Lat *lūgeō* (< **lougei̯e/o-*) 'mourn, lament', Grk λευγαλέος 'sad, horrible', λυγρός 'baneful, mournful', TochB *lakle* 'pain, suffering'. A word of the center and east of the IE world.

***?ĝem-** 'weep, lament, moan'. [Buck 16.39; BK 279 (**k'am-/*k'əm-*)]. NIr *geamh* 'prattle', Lat *gemō* 'sigh, moan, lament, groan', Arm *cmrim* 'grieve'. If all these words belong together, then we have evidence for a word at least of the west and center of the IE world.

See also CALL; FEAR; PAIN. [D.Q.A.]

GRIND

***melh$_2$-** 'grind' (pres. ***mólh$_2$ei**). [*IEW* 716–718 (**mel-*); Wat 40–41 (**melə-*); GI 598 (**mel-*); Buck 5.56; BK 518 (**mul-/*mol-*)]. OIr *meilid* 'grinds', Wels *malu* 'grind', Lat *molō* 'grind', ON *mala* 'grind', OHG *malan* 'grind', Goth *malan* 'grind', OPrus *malunis* 'mill', Lith *malù* 'grind', OCS *meljǫ* 'grind', Rus *molótʹ* 'grind', Grk μύλη 'mill', Arm *malem* 'crush', Hit *mall(a)-* 'grind', OInd *mṛṇā́ti* 'crushes', TochA *malyw-* 'crush, squeeze, lay waste', TochB *mely-* 'crush, squeeze, lay waste', *mäl-* 'crush, repress'. An enlargement of this verb is TochB *mlutk-* (< **ml(h$_2$)-eu-T-sk̑e/o-*) 'grind'. Cf. the widespread derivatives meaning 'meal' or 'nourishment': MWels *blawt* 'meal', ON *mjǫl* 'meal', OE *melu* 'meal' (> NE *meal*), OHG *mëlo* 'meal', OPrus *meltan* 'meal', Lith (pl.) *mìltai* 'meal', Latv (pl.) *mil̃ti* 'meal', Rus *mélivo* 'nourishment', Alb *mjel* 'meal'. The Latin derivative *immolāre* 'sprinkle with sacrificial meal' retains the religious associations bound up with agricultural fertility. The agreement of Hittite and the various European stocks (as well as, in part, Tocharian B) on the agricultural meaning 'grind' virtually assures us that that meaning is PIE in date.

***ghrendh-** 'grind' (pres. ***ghréndheti**). [*IEW* 459 (**ghrendh-*); Wat 23 (**ghrendh-*); Buck 5.56; BK 351 (**Gar-/*Gər-*)]. Lat *frendō* 'gnash the teeth', ON *grotti* 'mill', OE *grindan* 'grind' (> NE *grind*), Lith *gréndu* 'scrape, scratch (off)', Grk χόνδρος (if dissimilated from **χρονδρός*) 'grain'. A younger word than the previous one, found in the west and center of the IE world.

***h$_4$el-** 'grind down'. [*IEW* 28–29 (**al-*); Wat 2 (**al-*); GI 598; BK 404 (**ħal-/*ħəl-*)]. Grk ἀλέω 'grind, bruise, pound', Arm *ałam* 'grind', OInd *áṇu-* 'fine, minute (< *'ground fine'); *Panicum miliaceum*' (OInd < **alnu-*). A word of the southeast of the IE world.

See also AGRICULTURE; QUERN; THRESH. [D.Q.A.]

GROUND

***bhudhnó-** 'bottom' > 'ground, depth, foot, root'. [*IEW* 174 (**bhudh-m(e)n*); Wat 10 (**bhudh-*); Buck 12.34]. MIr *bonn* 'sole of foot', Lat *fundus* 'bottom, piece of land', ON *botn* 'bottom', OE *botm* 'bottom' (> NE *bottom*), OHG *bodam* 'bottom', Grk πυθμήν 'bottom, depth, root', πύνδαξ 'bottom, depth', Av *būna-* (< **bundna-?*) 'bottom, ground, depth', OInd *budhná-* 'bottom, foot, root'. Arm *bun* is a loanword from Iranian, as is Mari *pundaš*, which points to **bund(n)a-*. Later Indian languages also have *-nd(h)-*, e.g., Prakrit *bundha-*. The relation between the two Greek forms must be first established as they clearly have the same base and exactly the same meaning. Grk *-νδ-* cannot be from **-ndh-*. (The argument that the place-name Πύδνα proves Macedonian origin for δ < **dh* is incorrect as the name Ιεράπυτ/δνα = -πετρᾱ on Crete indicates that the word was not Macedonian but a pre-Greek word probably meaning 'rock'). The old explanation that *-no-* < *-mno-* seems both unnecessary and improbable as all languages would have reduced *-mno-* independently (as Greek still retains the original form). The development **-dhn-* > **ndh(n)-* is quite understandable. The Germanic alternation of dentals is due to Kluge's Law (*Cn* > *pp, tt, kk*); the Germanic *m* is secondary. The original meaning in PIE seems to be 'bottom', i.e., 'the (flat) base of a hollow object or space'; the meaning 'ground', which is not found in Greek, is secondary.

***telh$_x$-om** ~ ***tl̥h$_x$-om**? 'floor (of planks)?' [*IEW* 1061 (**tel-*); Wat 69 (**tel-*); Buck 1.21]. OIr *talam* (gen. *talman*) (< **telh$_x$-mon-?*) 'earth, ground', Lat *tellūs* (gen.) *tellūris* 'earth', *meditullium* (< **-toll-i-*) 'inland, middle', ON *þel* 'ground', *þil(i)* 'plank, wall of planks', OE *þel* 'floor', *þille* 'plank of a floor', OHG *dil(o)* 'plank', OPrus *talus* 'floor of room', Lith *tìlės* (< **tl̥h$_x$-*) (pl.) 'planks at the bottom of a ship', Latv *tilandi* 'planks at the bottom of a ship', ORus *tĭlo* (< **tl̥h$_x$-o-*) 'bottom', Rus *tlo* 'bottom', OInd *tala-* 'surface, bottom'. The Germanic, Baltic and Slavic forms appear to belong together; PIE status depends largely on the validity of the Old Indic cognate. The relation between 'planks' and 'floor' remains uncertain as well as other possible cognates, e.g., OCS *steljǫ* 'spread out (bed, roof)'; Grk τηλία 'playing table' should be rejected since a lengthened grade is most improbable and the underlying meaning may derive from 'sieve'. Connection with the PIE root **(s)telh$_x$-* 'flat' is likewise uncertain.

***dhĝh(e)men** ~ ***dhĝhmeh$_a$(-i)**? 'on(to) the ground'. [*IEW* 414 (**ĝhðem-*); BK 81 (**diq[h]-/*deq[h]-*)]. Lat *humī* (<

*g^hom-) 'on the ground', OPrus *semmai* 'down', Lith *žemaĩ* 'low, below, underneath', Grk *χαμαί* (< *dhghm̥meh$_a$i?) 'on the ground', OInd *jmán* 'on the ground', *kṣamā́* 'on the ground'. Adverbs derived from *dhĝhem- 'earth' are much debated. The form in *-en* is supposed to be *$h_1$en 'in'; the word for 'man', *dhĝhemōn (Lat *homō* < *hemō*, etc.), is supposed to be derived from this adverb. The Latin form is a normal locative from *humus*, the Baltic is a normal adverb in *-aĩ < *-oi. Grk *χαμαί* is now suggested to contain a locative suffix *-eh_2(-i) from a Lindeman variant *dhghm̥-. OInd *kṣamā* might be a similar formation.

The wide semantic field of *bhudhnó- which ranges from 'ground' to 'wooden stand', etc., was pressed by W. Porzig to suggest that the various meanings could be best explained by presuming an original IE environment that involved marshy land and settlement raised on timber supports, in short, the so-called Swiss "lake-dwellings", actually lake-side dwellings, where houses were raised above the wet ground on wooden piles. Even Porzig saw that this was hardly evidence to erect a new homeland solution which archaeologically would be regarded as fantastic and linguistically without compelling evidence.

See also Earth; House. [R.S.P.B.]

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GROUP *see* LINEAGE

GROVE

némes- '(sacred) grove'. [*IEW* 764 (*nemos-)]. OIr *neimed* 'sacred grove, sanctuary', Lat *nemus* 'wood with pasture land for cattle, sacred grove', OSax *nimidas* 'sacred grove', Grk *νέμος* 'wooded pasture, glade'. In terms of our firm evidence on the religious symbolism of trees, we have to infer that the sacred groves in question consisted in large part of oak trees bearing, of course, acorns and hung with mistletoe. There are frequent references to sacred groves among the various stocks offering cognate terms. In addition to OIr *neimed*, we also have Celtic place-names with the element 'grove' from Britain *Aquae Arnemetiae* to the sacred oak grove of the Galatians of Asia Minor at *Drunemeton*, while Tacitus describes both the sacred groves of the defiant druids on Anglesey as well as the sacred grove of the Germanic Semnones who believed their sacred grove to be the birth-place of their tribe and home of their highest god. It is possible but inherently unlikely that the whole *némes-set is derived from the verbal root *nem- 'to bow, to reverence', as reflected in Av *nəmah-* 'bow, reverence', OInd *námas-* 'bow, reverence'. The distribution of solid cognates clearly indicates a word of the west and center of the IE world.

See also Bend; Trees. [P.F.]

GROW

$h_a$eug- 'grow'. [*IEW* 84–85 (*au̯eg-); Wat 4 (*aug-); GI 206 (*Hauk'-); Buck 12.53; BK 399 (*ħaw-/*ħəw-)]. Lat *augeō* 'augment, increase', ON *auka* 'augment, increase', OE *ēacian* 'augment, increase', OHG *ouhhōn* 'augment, increase', Goth *aukan* 'augment, increase', Lith *áugu* 'grow', Latv *aũgt* 'grow', Grk *ἀέξω* 'increase', Av *uxšyeiti* 'grows', OInd *úkṣati* 'strengthens', TochA *ok-* 'grow, increase', TochB *auk-* 'grow, increase', TochB *auks-* '± sprout, grow up'. Cf. the widespread derivative *$h_a$eugmen-: Lat *augmentum* 'growth', Lith *augmuõ* 'growth', OInd *ojmán-* 'strength', TochB *auki* '± increase'. Widespread and old in IE.

h_au̯okséi̯e/o- 'grow'. [*IEW* 84–85 (*au̯ek-s-); Wat 4 (*aug-); GI 206 (*Hwek'-); Buck 12.53]. Goth *wahsjan* 'increase, grow', Av *vaxšaiti* 'grows', OInd *vakṣayati* 'grows'. A derivative of the previous word.

ĝerh$_a$- 'grow, age, mature'. [*IEW* 390–391 (*ger-); Wat 20 (*gerə-); GI 151 (*k̂'erH-); BK 284 (*k'irʸ-/*k'erʸ-)]. OCS *zьrěti* 'ripen', Grk *γηράσκω* 'age, grow older', OInd *járati* 'makes old, decrepit', *jíryati* ~ *jū́ryati* 'grows old, becomes decrepit', TochAB *kwär-* 'age, grow old'. Cf. Alb *grua* 'old woman', Grk *γραῦς* 'old woman', *γέρων* 'old man', *γῆρας* 'old age', Arm *cer* 'old; old man', OInd *járant-* 'old, decrepit; old man', *jarás-* 'old age', TochB (pl.) *śrāñ* 'old men'. Widespread and old in IE.

$h_1$leudh- 'grow' (pres. ***$h_1$léudhe/o-***). [*IEW* 684–685 (*leudh-); Wat 37 (*leudh-); GI 216 (*(e)l-eu-d^h-), cf. GI 398 (*leud^{h}ero-); Buck 12.53]. OIr *lus* 'plant', Lat *Līber* 'god of growth', OE *lēodan* 'spring up, grow', OHG *ar-liotan* 'grow', Goth *liudan* 'grow', Av *raoδaiti* 'grows', OInd *ródhati* 'grows'. Cf. the derivatives *$h_1$léudheros: Lat *līber* 'free', *līberī* 'children (as opposed to slaves)', Grk *ἐλεύθερος* 'free'; *$h_1$léudhis 'people': ON *ljōðr* 'people', OE *lēod* 'person' (pl.) *lēode* (< *$h_1$leudhei̯es) 'a people, country', OHG *liut* 'person', *liut(i)* 'people' (Medieval Lat [< Burgundian] *leudis* 'free-born commoner'), Lith *liáudis* 'common people', Latv *ļaudis* 'common people', OCS (pl.) *ljudьje* (< *$h_1$leudhei̯es) 'people', *ljudŭ* 'a people', Rus *ljúdi* 'people; servants', *ljud* 'a people'. These represent a couple of metaphorical extensions. First we have the 'growing', i.e., 'younger' generation; secondly we have the 'growth' of the people, more particularly one's own ethnic group who are 'free' in contrast to outsiders within the group who are likely there as slaves. The focus of this word's meaning was apparently the growth to maturity of humans. Widespread and old in IE.

$h_a$el- 'grow' (pres. ***$h_a$éle/o-***). [*IEW* 26–27 (*al-); Wat 2 (*al-); BK 380 (*ħalʸ-/*ħəlʸ-)]. OIr *ailid* 'nourishes', Lat *alō* 'nourish', *alēscō* 'grow', ON *ala* 'nourish', OE *alan* 'grow', Goth *alan* 'grow', Grk *νεαλής* 'lively', *ἄναλτος* 'insatiable' and perhaps OInd *an-ala-* 'fire (if < *'the unquenchable'?). Cf. Lat *altus* 'high', OE *eald* 'old' (> NE *old*), OHG *alt* 'old'. Certainly a word of the west and center of the IE world. If the Indic word is to be included (and that is questionable since it may well be a Dravidian loanword), then it is old in IE.

k̂er- 'grow'. [*IEW* 577 (*k̂er-); Wat 30 (*ker-); GI 555

(*k̂^{h}er-); Buck 12.53; BK 205 (*t̪ɬ[^{h}]ir^{y}-/*t̪ɬ[^{h}]er^{y}-)]. Lat *crēscō* 'grow', *creō* 'create', *Cerēs* 'goddess of the fruitful earth', OHG *hirso* 'millet', Lith *šeriù* 'feed', *pā-šaras* 'fodder, feed', Alb *thjerrë* 'lentils', Grk *κορέννῡμι* 'satisfy', *κοῦρος* (< *k̂or-u̯o-) 'adolescent', Arm *serem* 'bring forth'. From *k̂er-h_xk-* we have TochB *kärk-* 'sprout', *karāk* 'branch' (TochA *kārke* 'branch'), *karāś* 'forest'. The focus of this word's meaning seems to have been the growth of plants.

meh₁(i)- 'grow' (pres. ***móh₁(i̯)ei***). [cf. *IEW* 704 (**mē-*); GI 597 (**meH(i)-*); BK 422 (**ma-/*mə-*)]. Hit *māi-* 'grow', *maya(nt)-* 'grown man', OInd *mímīte* 'is conceived, grows (of the fetus in the womb); reveals strength', TochB *maiwe* (< **moh₁iu̯o-*) 'young man, youth'. Though the verb is attested in only two stocks, the derived **meh₁ro-* ~ **moh₁ro-* 'large' is considerably more widely known, thus confirming the PIE status of this word.

u̯redh- 'grow, stand, take shape' (pres. ***u̯ródhei***). [*IEW* 1167 (**u̯erdh-*); GI 205 (**wred^{h}-*); Buck 12.53]. Latv *rādīt* 'bear', OCS *redŭ* 'nourishment', *rodŭ* 'race, tribe', Rus *rodítĭ* 'produce, offspring', Grk *ὀρθός* 'upright, straight, true', Av *vərədaiti* 'grows', OInd *vr̥dháti* 'grows, increases, becomes strong', *vrādhant-* 'upright', TochAB *wrāt-* 'shape, form'. With a new full-grade, i.e., as if from **u̯erdh-*: Av *varədaite* 'grows', OInd *várdhati* ~ *várdhate* 'grows, increases, becomes strong'. An abstract noun **u̯ródhr̥* (gen. **u̯r̥dhnós*) '± standing, taking shape' is reflected, with considerable analogical remodeling, in OCS *ranŭ* (< **u̯rōdhnos*) and Grk *ὄρθρος* both 'time just before or at daybreak, dawn' (i.e., the time the sun takes shape). More distantly related are ON *roskinn* 'ripe, mature', Goth *ga-wrisqan* 'bear fruit' (Gmc < **u̯resk^{w}-*), Alb *rrit* (? < **u̯r̥t-*) 'grow, enlarge'. At least a word of the center and east of the PIE world.

See also GRAIN; LARGE; SWELL. [D.Q.A.]

GRUNT

?*g(h)ru(n)(d)- 'grunt'. [*IEW* 406 (**gru-*); Wat 24 (**gru-*); Buck 18.14]. Lat *grunniō* ~ *grundiō* 'grunt', OE *grunnian* 'grunt' (> NE *grunt*), OHG *grunzian* 'grunt', Grk *γρύζω* 'grunt'. Almost surely independent onomatopoeic formations in the stocks where they are attested.

See also ANIMAL CRY. [D.Q.A.]

GUEST

****ghostis*** 'guest; stranger, enemy'. [*IEW* 453 (**ghosti-s*); Wat 23 (**ghos-ti-*); GI 657 (**g^{h}ost^{h}i-*); Buck 19.56; BK 237 (**gus-/*gos-*)]. Lat *hostis* 'stranger, enemy', *hospēs* (< **hosti-pot-s*) 'foreigner, guest; host' (< *'guest-master'), ON *gestr* 'guest' (borrowed > NE *guest*), OE *giest* 'stranger, guest', OHG *gast* 'stranger, guest', Goth *gasts* 'guest', OCS *gostĭ* 'guest', *gos-podĭ* 'master'. Possibly also Luv *kasi-*, if it means 'guest'. An outsider in IE society could be considered both as a guest and as a potential foe and this ambiguity is reflected in the semantic development of this root which pertains at least to the IE northwest. The neutral meaning 'stranger' was sometimes preserved, e.g., in ancient Rome where the stranger enjoyed the same rights as a Roman citizen. According to Benveniste, the Lat *hostis* was not a 'stranger' in general but someone with whom some sort of reciprocal recognition, such as gift-exchange, was recognized. This also helps explain the incorporation of the concept of hospitality within the semantic range of this term. It has been suggested that initially IE social customs required one to be more hospitable to strangers but with the progressive change in customs and experiences, especially the shift from societies based on interpersonal relations to ones governed by relationships within states, this duty was no longer observed and the original meaning of **ghostis* changed dialectally according to the prevailing attitude towards strangers. It is evident from its usage in Latin that this involved an increasingly hostile relationship.

See also EXCHANGE; FREEMAN; FRIEND. [E.C.P.]

Further Reading

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GULL

The ancients did not discriminate well between different varieties of seabirds and what has come down to us as words for 'gull' were probably not tightly used. Greek has both ***καύαξ*** from a root 'to shriek' and *λάρος* 'gull', another onomatopoeic root (**lā-*; *IEW* 650 (**lā-*)) which is also said to underlie ON *lō* 'sandpiper' and Arm *lor* 'quail'. Lat *mergus* was most any waterfowl, but ultimately became the word for 'gull' alone; Late Lat *larus* 'gull' is a Greek loan. Some of the other IE stocks drew from roots denoting other birds, e.g., OPrus *kerko* 'sea bird' (< **kVr-C-*) and Arm *oror* 'gull' from **h₃er-* 'eagle'. It is clear then that there are no grounds for reconstructing a PIE word for 'seagull'.

See also BIRDS. [J.A.C.G.]

GULLET

****gutr̥*** 'gullet, throat'. [IEW 394 (**gut-r̥*)]. Lat *guttur* 'gullet, throat, neck', Hit *kuttar* 'nape of neck'. Although poorly attested, the Anatolian cognate suggests a word of considerable antiquity.

****bh$_{e}$rug-*** 'gullet'. [*IEW* 145 (**bh$_{e}$rug-*)]. Lat *frūmen* 'gullet', Grk *φάρυ(γ)ξ* 'gullet', Arm *erbuc* 'breast'. Probably also belonging here is ON *barki* 'neck' though there is no trace of **-u-* in this latter word. Both these words appear to be old in PIE, though **gutr̥* may be the older.

See also ANATOMY; MOUTH. [D.Q.A.]

GUMUGOU CULTURE *see* QÄWRIGHUL CULTURE

GUMS *see* MOUTH

·H·

HAIL *see* ICE

HAIR

Head Hair (Human)

ḱripo- (Albanian, Indo-Iranian) ***ḱripes-*** (Latin, Albanian) '± head and facial hair'. [Buck 4.14]. Lat *crīnis* (< **kripsni-*) 'headhair', Alb *krip* '(short) headhair, facial hair', *krife* (< **ḱripsiịeh$_a$-*) 'mane', Av *srifā-* 'plume', OInd *śíprā* (dual) (< **śripā*) 'moustache and beard, bearded lips'. An old word, one that does not appear to be derived from any attested verbal root, that seems to have been largely replaced by newer formations and geographically and semantically marginalized.

Beard

smóḱụr̥ 'chin, beard'. [*IEW* 968 (**smek-*); GI 96 (**smek^h-r-*); Buck 4.142]. OE *smǣras* (pl.) (< **smahria-*) 'lips', Lith *smākras* ~ *smakrà* 'chin', Latv *smakrs* 'chin', Alb *mjekër* (with new vowel) 'chin, beard', Arm *mawruk'* 'beard', Hit *z(a)mankur* 'beard', OInd *śmáśru-* (< **smaśru-*) 'beard, (especially) moustache'. From **smeḱ-* 'chin'. This is the oldest reconstructible word for 'beard'.

bhardh-eh$_a$- 'beard'. [*IEW* 110 (**bhardhā*); Wat 5 (**bhardhā-*); GI 61 (**b^{h}ard^{h}ā*); Buck 4.142; BK 4 (**bar-/ *bər-*)]. Lat *barba* (< **farba*) 'beard', ON *barð* 'beard', OE *beard* 'beard' (> NE *beard*), OHG *bart* 'beard', OPrus *bordus* 'beard', Lith *barzdà* (with secondary *-z-*) 'beard', Latv *bàrda* 'beard', OCS *brada* 'beard, chin', Rus *borodá* 'beard, chin'. Compare the derivative **bhardh-eh$_a$-tos* 'bearded': Lat *barbātus* 'bearded', Lith *barzdótas* 'bearded', OCS *bradatŭ* 'bearded'. Related ultimately to words for 'bristle' or 'point' (cf. NE *bristle* or OInd *bhr̥ṣṭí-* 'spike, point'), **bhardh-eh$_a$-* itself is clearly a western regionalism within late PIE.

Body Hair (Human)

pou-m-s- '(human) body-hair'. Lat *pūbēs* 'pubic hair', *pūbēs* 'one adult enough to bear arms' (< *'one characterized by adult body-hair'), *pūbēscō* 'attain adulthood, come to maturity', Lith (dial.) *paustis* 'animal hair', Rus *pukh* 'down, fluff, fine hair', Alb *push* 'hair, down, fibre, fur', *pushem* 'begin to grow a beard, body hair', Grk πώγων (< **poụm̥-gon-*) 'beard', Shughni *pūm* 'down, fluff', OInd *púmān* (gen. *pumsás*) 'man, male' (< *'one characterized by adult body-hair').

pulos '(a single) hair (of the human body)'. [*IEW* 850 (**pu-lo-*)]. MIr *ul* (< **pulu*) 'beard', Grk πύλιγγες 'hairs of the body', Pashto *pal* 'fringe of hair', Kurdish *pūr* 'headhair', OInd *pulakās* (pl.) 'bristling hairs of the body', *pulastin-* 'wearing the hair straight or smooth'. See discussion in next entry.

pilos '(a single) hair (of the human body)', ***piles-*** 'felt'. [*IEW* 830 (**pi-lo-*); Wat 51 (**pilo-*); Buck 4.14]. Lat *pilus* '(a single) hair (of the human body)', *pilleus* (< **pilseịo-*) (adj.) 'felt', OCS *plŭstĭ* 'felt', Grk πῖλος (< **pilsos*) 'felt'. Probably in origin **pilo-* is but a variant, via sporadic unrounding of **-u-* in a labial environment, of **pulo-*. A derivative, **piles-*, seems early to have been specialized as 'felt'. **pu-lo-* itself is obviously related to **pou-ms-*. This group, which is almost pan-IE, is clearly the word for '(human) body hair'.

Mane

k(e)h$_a$isVr- 'mane'. [*IEW* 520 (**kais-*)]. Lat *caesariēs* '(long) headhair', OInd *késara-* 'hair, mane', TochA *śiśri* (< **śisri-*) 'mane'. Probably the oldest reconstructible word for 'mane'.

ghait(so)- 'hair, mane'. [*IEW* 410 (*ghait-ā*); Wat 20–21

(*ghait-)]. MIr gaisid 'stiff, stubbly hair', Grk *χαίτη* 'long flowing hair, mane', Av *gaēsa-* 'curly hair'. It is not clear whether this word was originally 'mane' or 'human headhair'. Of late PIE date.

Body Hair (Animal)

i̯ók̂u or ***i̯ék̂u*** (gen. ***i̯ék̂us***) 'body hair'. Arm *asr* 'wool', OInd *yáśu* '± pubic hair', TochAB *yok* 'body hair, wool'. If all these words belong here, this would seem to be the earliest reconstructible word for '(animal) hair'.

góu̯r̥ (gen. ***gunós***) '(animal) body hair'. [*IEW* 397 (**geu-ro-s*); Buck 4.14]. MIr *gúaire* (< **gouri̯eh$_a$-*) 'hair (of animals), bristles', ON *kārr* (< **gou̯Vro-*) 'curl of hair', perhaps Goth *kuna-wida* 'fetters', Lith *gaũras* 'down, tuft of hair', Latv *gauri* (pl.) 'pubic hair', Av *gaona-* 'body hair; color', OInd *guṇá-* 'thread, string'. Possibly belonging here are Bulg *gŭna* 'furcoat', *gúnja* 'goathair cloak', Rus *gún(j)a* 'wornout garment, old furcoat', though they are usually taken as loanwords from some Altaic language. Perhaps from **geu-* 'be bent, curl' and, though more widespread, likely to be younger than the underived **i̯ék̂u*.

?*réumn- 'horse-hair' or 'fleece'. [*IEW* 868 (**reu-*); cf. Wat 55 (**reu-*); Buck 4.14; BK 601 (**ruw-/*row-*)]. OIr *rōn* 'horse's mane', NIr *rúaimneach* (< **reumenāko-*) 'long hair', Wels *rhawn* (< **reu(m)no-*) 'horse's mane', Rus *runó* (< **reu(m)no-*) 'fleece', NPers *rōm* 'pubic hair', Sarikoli *reb* 'body-hair, fur', OInd *róman-* ~ *lóman-* 'body hair of men and animals' (Indo-Iran **rauman-*). Also related: ON *rǫgg* ~ *rǫggr* (< Proto-Gmc **rawwō-/rawwa-*) 'long hair'. From **reu(h$_x$)-* 'pluck', thus **réumn-* 'that which is plucked'. **réumn-* is a banal formation and thus may have been independently created at either end of the IE world, particularly as the Celtic terms seem to be 'horse-hair' while the eastern words look to be 'fleece' (whence 'body hair').

Hair (General)

u̯endh- '(a single) hair', ***u̯e/ondhso-*** 'facial hair'. [*IEW* 1148 (**u̯endh-*); Buck 4.14; BK 511 (**wun-d-/*won-d-*)]. MIr *find* (*DIL finna*) 'a single hair (of humans or animals); fleece, fur', *fēs* (< **u̯endhsos*) 'lip; beard; pubic hair', OHG *wint-brāwa* 'eye-lash', OPrus *wanso* (< **u̯ondhseh$_a$-*) 'first beard', OCS *vǫsŭ* 'beard, moustache', Grk *ἴονθος* 'hair root, young beard; acne', Khot *vatca-* (< **u̯e/ondhso* + *-ča-*) 'facial hair'. Certainly of PIE date.

dhrigh- '± a (coarse) hair'. [*IEW* 276 (**dhrigh-*); Buck 4.14]. MIr *gairb-driuch* 'bristle, rough hair', Grk *θρίξ* 'a single hair' (pl. 'hair [mostly of head], [pig's] bristles, wool'), Khot *dro* 'hair', TochB *traksiṃ* (pl.) 'awns'. Another old term in PIE, one largely replaced in the central PIE area by the following word.

k̂er(es)- '± (rough) hair, bristle'. [*IEW* 583 (**k̂er(s)-*); Buck 4.14; BK 204 (**ṯɬ[^{h}]ir-/*ṯɬ[^{h}]er-*)]. ON *hār* 'hair', OE *hǣr* 'hair' (> NE *hair*), OHG *haar* 'hair' (all < **k̂ēro-*), OHG *hursti* (< **k̂r̥sti-*) 'crest', Lith *šerȳs* 'bristle, animal hair', Lith (dial.) *širȳs* 'hair', Latv *sari* (pl.) 'bristles, horsehair, mane, hair', OCS *srŭstĭ* (< **k̂r̥sti-*) 'hair', Rus *šerstĭ* 'wool, animal hair'. The wide variety of ablaut and formation suggests a respectable antiquity but its geographical spread suggests a status of a northwest regionalism within PIE.

dek̂- 'thread, hair'. [*IEW* 191 (**dek̂-*); Wat 11 (**dek-*); Buck 4.14; BK 159 (**t'^{y}ak[^{h}]-/*t'^{y}ək[^{h}]-*)]. MIr *dūal* (< **dok̂lo-*) 'lock of hair', ON *tagl* 'horse tail,' OE *tæg(e)l* 'tail' (> NE *tail*), OHG *zagel* 'tail', Goth *tagl* 'a single hair' (all from **dok̂ló-*), ON *tāg* 'thread, fibre', MHG *zāch* (< **dēk̂(i̯eh$_a$)-*) 'wick', Khot *dasa-* 'thread', OInd *daśā-* 'fringe', TochA *śāku* (< **dēk̂u̯eh$_a$-*) 'headhair'. Probably here should also be SC *dlaka* (if it represents a metathesized **dolk̂o-*) 'a hair', Shughni *δōx̌c* 'goat's hair', Sarikoli *δors* 'goat's hair' (Proto-Iranian **darsa-*), Khot *dairśa-* 'pertaining to goat's hair' (< Proto-Iranian **darsya-*). The original meaning of **dek̂-* is more likely to have been 'thread' than 'hair'. However, a shift to '(lock of) hair' of the derivative **dok̂lo-* was widespread (Celtic, Germanic, Slavic, Iranian) and surely of late PIE date. Toch **dēk̂u̯eh$_a$-* represents an independent shift of 'thread' > 'hair'.

Cut Hair

koik̂- 'cut hair'. Lith *káišiu* 'scrape, shave', *kaĩšà* 'scrapings', Alb *qeth* (< **kóik̂-e/o-*) 'cut hair, give a haircut; shear (sheep)', OInd *kéśa-* (< **kóik̂-o-*) 'head hair'. Though not widely attested, the exact phonological and semantic correspondence suggests at least a late PIE technical term.

u̯erĝ- 'shave, shear'. [cf. *IEW* 1168]. Arm *gercum* 'shave, cut hair', TochA *wärk-* 'shear', TochB *wärk-* 'shear'. The distribution of attestations suggests a possible word of the center and east of the IE world; possibly related to **u̯erĝ-* 'work'.

There is a large number of PIE words that we can reconstruct for the semantic field 'hair'. This relative abundance suggests that this semantic domain had a high degree of cultural importance for PIE speakers. Certainly there is evidence from several IE stocks that both headhair and pubic hair were important signs of adult womanhood. Likewise body hair, particularly the presence of pubic hair (and a beard), was *the* sign of a youth's having entered into a man's estate. Thus in Latin we have *pūbēs* (gen. *pūbis*) 'pubic hair', the adjective *pūbēs* (gen. *pūberis*) 'grown up, adult', and another noun *pūbēs* (gen. *pūberis*) 'grown up males, youth able to bear arms, young men'. The Old Indic cognate, *púmān*, has become simply 'man'. In addition, the relatively large number of terms apparently referring to animal hair (and 'mane') suggests the economic importance of animal hair, particularly horsehair.

Within IE creation myths, 'hair' is generally homologous with plant life, trees or grass. This association is extended to ritual behavior, including the proper disposal of shorn hair. For example, in the Old Indic *Cūḍākarman* (*Saṅkhāyana Gṛhya Sūtra* 1.28) the ritual of the first tonsure involves both the placement of plant material, here the shoot of the kuśa plant, in the child's hair and the deposition of the shorn hair

itself in a mound of bull dung mixed with the same grass. In the *Avesta* (*Vīdēvdāt* 17.1-6) shorn hair must be disposed of ritually in a pit in the ground where it will be enjoined to assist in the growing of plants rather than be casually dropped to the ground where it may yield demons. The Roman Flāmen Diālis (Gellius' *Attic Nights* 10.15) has his shorn hair placed in the ground under a fruitful tree while the Vestal Virgins (Pliny's *Natural History* 16.235) "feed" a sacred (five hundred years old) lotus with their own hair.

Hair and Epic Literature

Epical and anthropological-historical evidence can maintain the parallelism of hair-growth to healthy vegetation, but also introduces animal images and parallels, especially the horse's mane (Greek and Celtic warrior examples) and some wild animal hair. The long-haired image is especially marked in IE warrior contexts from the *Iliad* onwards, taking in Indic, Germanic, and Celtic warrior societies, and we should also note the correspondence between these long-haired warriors and the long-haired nobility whose hair-style is noted (and sometimes criticized) through the medieval period and later. In fact, a case could be made that within the Dumezilian scheme, an IE Second (Warrior) Function, marked by its long hair, often finds itself placed between two short-haired or cropped functions: the cropped or tonsured First (Religious) Function of the druid, brahman or priest and the short-haired Third (Fertility) Function figure of the farmer or herdsman. However, Second Function long hair is expected to be *controlled* or kempt, while there is evidence that uncontrolled, as well as over-elaborate or over-styled long hair, was thought to mark a glissade toward Third Function degeneracy or effeminacy in a warrior (see Euphorbos in *Iliad* 17.51-52; Starkaðr's remarks in Saxo's *Gesta Danorum* 6.28). The Germanic data, taken from Roman sources, tells us that war-chiefs (Suebian, Alemannic and probably others) styled their long hair into horns, crests and "roaches" to appear taller and perhaps even more monstrous in physical appearance (Tacitus *Germania* 38; Silius Italicus *Punica* 5.134; Ammianus Marcellinus 16.12.24).

Long hair rather than the beard of the mature warrior seems to be a more significant marker for an IE warrior-hero: a significant number of these heroes are "beardless" (the Irish Cū Chulainn and Conall Cernach, the Byzantine Digenes Akritas). The typical IE Second Function hero, in fact, can show marked adolescent characteristics, including long hair and an immature, even virginal, sexuality. The beard would be predicted for a First Function sovereign but this is by no means always the case. A graying or balding head would be anomalous in a hero, however fitting for a sovereign figure, because the hero expects to die young, and gloriously, in battle. Graying or missing hair then would mark an eccentric or Tricksterish IE warrior-figure or an Old Hero or one who, like the Irish Finn mac Cumaill, has some First Function druidic powers. Cutting the warrior-hero's hair is disgracing and unmanning since it indirectly attacks the masculine essence (Lat *caput*), though Tacitus says that the Germanic Chatti allowed the cutting of hair and beard when a young male had killed his first enemy (*Germania* 31).

Hair color follows no perceptible IE code, at least in the epic canon; typical heroes tend to be blond (ancient and Byzantine Greek, Irish and Germanic evidence, e.g., the 'flaxen hair' of Jarl, the warrior-noble of the *Rigsþula* (str. 35)) while red, the canonical IE Second Function color, commonly seems to be given a supernatural association. The hero Cū Chulainn, however, is at one point identified with hair tricolored in perfect consonance with the IE formula: dark-rooted, red in the shaft, golden at the ends (*Tāin* 2268ff.).

See also AGE SET; ANATOMY; CHIN; COSMOGONY; MEDICINE; WOOL. [D.Q.A., D.A.M.]

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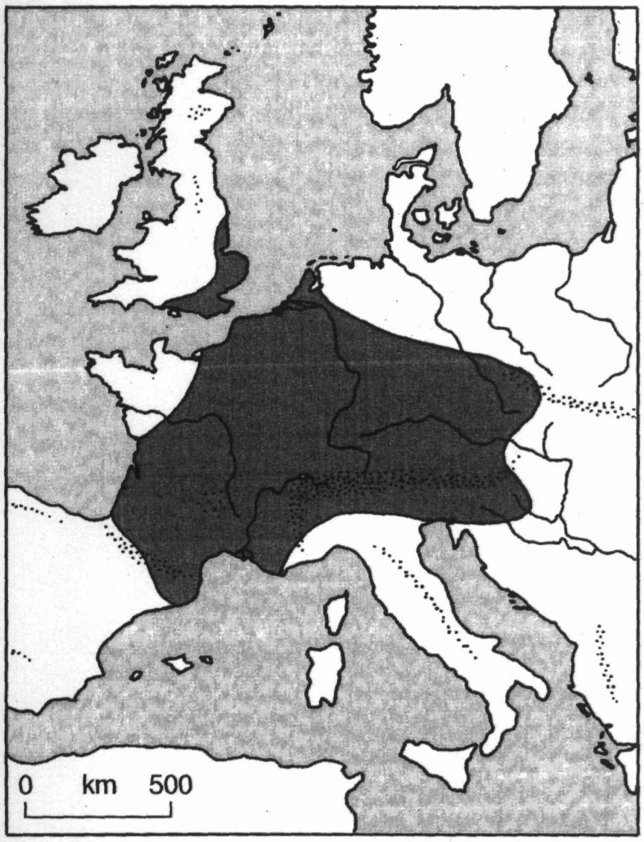
sēmis 'half'. [*IEW* 905–906 (**sēmi-*); GI 741 (**sēm-i-*); Wat 57 (**sēmi-*); Buck 13.24; BK 184 (**sam-/*səm-*), 198 (**sih-/*seh-*)]. Lat *sēmi-* 'half', OHG *sāmi-* 'half', Grk *ἡμι-* 'half', OInd *sāmí-* 'half'. Sometimes taken as a lengthened-grade derivative of **sem-* 'one', i.e., 'that which forms the whole' or the like. Others take it to reflect a derivative of **seh₁-* 'separate, divide' seen otherwise in Lat *sē(d)* 'without; apart' (usually taken as a derivative of **sue-* 'own'), Av *hāiti-* 'division', Latv *sę̄ta* 'hedge, section, division'. Finally, at times it is left without any connection to other IE words.

sm̥teros 'one or the other of two'. Wels *hanner* 'half', Bret *hanter* 'half', Grk (Attic) *ἕτερος* 'one or the other of two' (by assimilation < *ἅτερος*, preserved in other Greek dialects). The distribution would seem to guarantee at least late PIE status for this word.

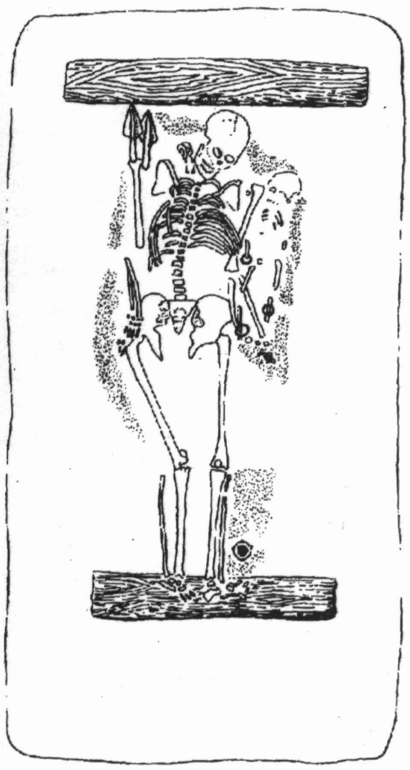
See also BROAD; HEAP; MIDDLE; NUMBER. [D.Q.A.]

HALLSTATT CULTURE

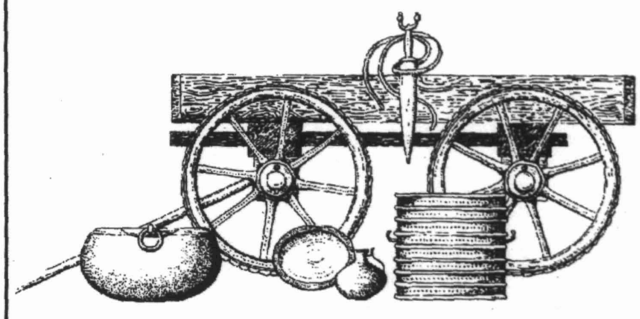
The early Iron Age culture of much of temperate Europe during the period *c* 800–500 BC was the Hallstatt culture. Chronologically, it is confined to the final two phases of the Hallstatt *period*, i.e., periods C and D, the previous phases assigned to the late Bronze Age Urnfield culture. The culture marks the transition from primarily bronze-using societies to the increasing adoption of iron weapons and tools. Both open settlements, villages and farms, and defended hillforts, especially in the east or in the Hallstatt D period, are known and there were growing trade relations with the Mediterranean, first directly across the Alps and then via the early Greek colonies in Italy and France. External trade



Hallstatt a. Distribution of the Hallstatt culture.



Hallstatt b. Male burial from the Magdalenberg (Hallstatt D).



Hallstatt c. Wagon burial from the Heiligenbuck barrow (sixth century BC).

probably helped stimulate social stratification and rich burials; warriors accompanied with weapons and ornaments, females with the latter, are well known. Among these, large tumulus burials often accompanied by the remains of wheeled vehicles are especially spectacular. There is some evidence that the eastern Hallstatt in Hungary and Poland may have experienced incursions from (?Iranian speaking) nomads from the steppe region. Over much of its territory the Hallstatt culture is replaced by the Iron Age La Tène culture.

In relation to the Indo-Europeans, the Hallstatt culture, at least in the west, is usually seen as ancestral to the Celts and many would describe it linguistically as Proto-Celtic. But Hallstatt is also known in east central Europe in territories which might be more easily assigned to presumably non-Celtic speakers. Moreover, the absence of Hallstatt remains in Iberia and their extreme paucity in Ireland have made it difficult to associate the Hallstatt culture with the spread of the Celtic language throughout these peripheral parts of Atlantic Europe.

See also CELTIC LANGUAGES; LA TÈNE CULTURE; URNFIELD CULTURE. [J.P.M.]

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HAND

ĝhés-r̥- 'hand'. [*IEW* 447 (**ĝhesor-*); Wat 22 (**ghesor-*); GI 707 (**ĝ*^{h}*es-r̥-*); Buck 4.23; BK 220 (**gas*^{y}*-/*gəs*^{y}*-*)]. Lat (from Osc-Umb) *hīr* 'hollow of hand', Alb *dorë* (< **ĝhēsr-eh*$_a$*-*) 'hand', Grk *χείρ* 'hand', Arm *jeṙn* 'hand', Hit *kissar* 'hand', TochA *tsar* 'hand', TochB *ṣar* 'hand' (Toch < **śṣār-* < ***ĝheser-*). Archaic in morphology and widespread; there is no doubt that we have here the original PIE word for 'hand'.

ĝhós-to-s 'hand'. [*IEW* 447 (**ĝhesto-*); GI 707 (**ĝ*^{h}*es-t*^{h}*o-*); Buck 4.33; BK 220 (**gas*^{y}*-/*gəs*^{y}*-*)]. Lat *praestō* (< **prai-hestōd*) 'at hand', Lith *pa-žastē* ~ *pa-žastìs* 'arm-pit', Av *zasta-* 'hand', OPers *dasta-* 'hand', OInd *hásta-* 'hand'. A derivative, of at least late PIE date, of the previous entry.

méh*$_a$*r̥ (gen. ***mh̥*$_a$*nós***) 'hand'. [*IEW* 740–741 (**mə-r*); GI 707 (**mH̥r-/n-(t*^{h}*)-*); Buck 4.33]. Lat *manus* 'hand', Umb

manuv-e 'in the hand', ON *mund* 'hand', OE *mund* '(palm of the) hand, protection', OHG *munt* 'hand, protection, guardian' (Gmc < **mn̥ha-tó-*), Alb *marr* (< **mar-n(i̯)e/o-*) 'take, grasp', Grk *μάρη* 'hand', Hit *māniyahh-* 'hand over'. Its exact shape is difficult to reconstruct (what is given here seems to be the most likely possibility). Though less well attested, it is clear that we have a word of PIE date. How it may have differed in meaning from **ĝhés-r-* is unclear: GI have suggested that the underlying meaning of **méhar̥* was 'hand, power; put into someone's possession', e.g., Lat *manus* 'hand; power' and Hit *māniyahh-* 'hand over, turn power over, rule', *māniyahhai-* 'government, power'. This would suggest that **méhar̥* symbolized or implied 'power' while **ĝhés-r-* was solely an anatomical term.

***pólham̥** (gen. ***pl̥hamós**) 'palm of the hand'. [*IEW* 806 (**pl̥-mā*); Wat 49 (**pl̥ə-mā-*); Buck 4.33; BK 49 (**p[h]al-/ *p[h]əl-*)]. OIr *lām* 'hand', Wels *llaw* 'hand', Lat *palma* 'palm', *palam* 'openly', OE *folm* 'palm; hand', OHG *folma* 'hand', Grk *παλάμη* 'palm'. All of these words are immediately from the derivative **pl̥ham-eha-* but the archaic underlying morphology speaks of great antiquity within IE. Presumably ultimately a derivative of **pelha-* 'flat'.

***dhénr̥** 'palm (of the hand)'. [*IEW* 249 (**dhen-*); Wat 13 (**dhen-*)]. OHG *tenar* 'palm', Grk *θέναρ* 'palm, sole of the foot'. Though not widely distributed, it looks by its shape to be an old word.

pólik(o)s** 'finger, thumb' (pólihxos** 'pertaining to a finger'). [*IEW* 840–841 (**polo-*); Wat 52 (**pol-*); Buck 4.34(2); BK 56 (**p[h]al-/*p[h]əl-*)]. Lat *pollex* (with secondary doubling of the *-l-*) 'thumb', RusCS *palĭcĭ* 'thumb', Rus *pálec* 'finger, toe' (< **poliko-*), *šesti-pályj* 'six-fingered', *bez-pályj* 'without fingers'; cf. also ON *felma* ~ *falma* 'grope about', OE *fēlan* 'touch, feel, perceive' (> NE *feel*), OHG *fuolen* 'feel' (Gmc < **pōli̯e/o-*), Bulg *palam* 'seek', NPers *pālidan* 'seek', and possibly more distantly Lat *palpō* 'feel'. Though only found in Slavic and Latin, the similarity in form and identity of meaning strongly suggests at least late PIE status for this word. Certainly no other word for 'finger' looks to be reconstructible for PIE.

***mustí-** 'fist'. [cf. *IEW* 745 (**meuk̂-*)]. Av *mušti-* 'fist', OInd *muṣṭí-* 'fist', TochB *maśce* (< **mustéis*) 'fist'. Possibly an "easternism" in late PIE.

***pn̥(kʷ)stí-** 'fist'. [*IEW* 839 (**pn̥ksti-*); Wat 49 (**pn̥k-sti-*); GI 747 (**pʰ(e)nkʰᵒ-tʰ-*)]. OE *fȳst* 'fist' (> NE *fist*), OHG *fūst* 'fist', Lith *kùmstė* (< **punkstė*) 'fist', OCS *pęstĭ* 'fist', Rus *pjast* 'metacarpus'. Probably a derivative of **penkʷe* 'five'. Possibly a "westernism" in late PIE.

See also Anatomy; Arm. [D.Q.A.]

Further Readings

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HANDLE

***h₂enseha-** 'handle'. [*IEW* 48 (**ansā* ~ **ansi-*); Wat 3 (**ans-*)]. Lat *ānsa* 'handle', MHG *ōse* ~ *öse* 'ring, loop', OPrus *ansis* 'pothook', Lith *ąsà* 'pot handle', Latv *ùosa* 'handle'. A related word is perhaps to be seen in ON *æs* (if < **ansi-*) 'edge, outer border'. Presumably a derivative of 'hold, contain'. At least a word of the northwest of the IE world.

The original referent of **h₂enseha-* may have been something like a strap to account for the semantic range among the various IE stocks. Its application to ceramics could date from anytime after the beginning of the Neolithic, e.g., handled pots are well known from the middle Neolithic in Greece and Italy and by 3500–3000 BC there is an explosion of high strap-handled mugs across much of southeastern and central Europe.

See also King; Pot; Reins; Tool. [D.Q.A., J.P.M.]

HANG

***k̂onk-** 'hang'. [*IEW* 566 (**k̂enk-*), 614 (**k̂onk-*); Wat 32 (**konk-*); BK 203 (**ṭ̂[h]unk[h]-/*ṭ̂[h]onk[h]-*)]. Lat *cunctor* 'delay', ON *hanga* 'hang', OE *hōn* 'hang' (> NE *hang*), OHG *hāhan* 'hang', Goth *hahis* 'you hang', Hit *kank-* 'hang', OInd *śáṅkate* 'doubts, fears', perhaps TochB *śäṅk-* '± delay, hesitate'. This form is securely reconstructible; both Latin and Old Indic show a shift from immobility to a state of emotional uncertainty. If the Tocharian form belongs here we may have evidence for a Narten present, strong-grade **k̂ónk-*, weak-grade **k̂énk-*.

***lemb-** ~ ***remb-** 'hang down'. Lat *limbus* 'hem, border', OE *lemphealt* (< **læmpi-halt*) 'lame, limping', Lith *rembstù* 'am slow, immobile', OInd *rámbate* 'hangs down'. This root may be related to the following. If so, the Old English and Lithuanian forms may exhibit the same connection between hanging and hesitation that is seen in the cognate set for **k̂onk-*.

?*(s)leb- 'hang down'. [*IEW* 655–657 (**lēb-*); Wat 61 (**slēb-*)]. Lat *labō* 'fall, sink', OE *slǣpan* 'sleep' (> NE *sleep*), OHG *slāfan* 'sleep', Goth *slēpiþ* 'sleeps', Lith *slàbti* 'become weak', Grk *λοβός* 'lobe, earlobe'. A problematic set of possible cognates. Some doubt whether Greek belongs here while others would add the series of words for 'lip', e.g., Lat *labia*, OE *lippa* (> NE *lip*), to this set although it is safer to assume that they do not belong here. The Germanic and Lithuanian forms have also been grouped separately from the Latin on semantic grounds.

[M.N.]

HAPPY

***teus-** 'be happy'. Hit *duski-* (< **tus-sk̂e/o-*) 'be happy', *dusgaratar* 'joy', OInd *túṣyati* 'is delighted with'. Though restricted in its attestation to Hittite and Old Indic, the pattern of this distribution would seem to guarantee PIE status.

***ghleu-** 'revel'. [*IEW* 451 (**ghleu-*)]. ON *glȳ* 'joy', *glaumr* 'noisy revels', OE *glēo* 'joy' (> NE *glee*), *glēam* 'revels, joy', Lith *gláudoti* 'joke', Latv *glaudât* 'joke', Rus *glum* 'joke', Grk

χλεύη 'joke'. At least a word of the west and center of the IE world.

***geh$_a$u-** 'rejoice, swell with joy'. [*IEW* 353 (**gāu-*); Wat 18 (**gāu-*)]. MIr *gūaire* (< **geh$_a$ur̯ios*) 'noble', Lat *gaudeō* 'am happy, rejoice', *gaudium* 'joy', Lith *džiaugiúos* (metathesized < **gaudžiúos*) 'be happy', Grk *γάνυμαι* (< **gh̥$_a$-n-u-*) 'rejoice', *γαῦρος* 'proud'. At least a word of the west and center of the IE world.

***geh$_a$dh-** 'rejoice'. Grk *γηθέω* 'am happy, rejoice', TochAB *kātk-* 'rejoice'. A variant with a more easterly distribution of the previous entry. Both derive by different enlargements from a more basic (and unattested) **geh$_a$-*.

***meud-** 'be merry'. [*IEW* 741–742 (**meu-d-*)]. Av *maoδanō-kara-* 'lust-making', OInd *módate* 'is cheerful', *móda-* 'cheerfulness', TochB *mutk-* (< **mud-sk̂e/o-*) '± strengthen, enliven'; cf. the widespread derivative **mudrós*: Lith *mudrùs* 'cheerful, lively', Latv *mudrs* 'cheerful, lively', OInd *mudrá-* 'merry, cheerful'. At least a word of the center and east of the IE world.

[D.Q.A.]

HARAPPAN CULTURE

One of the major centers of civilization of Eurasia, the Indus Valley or Harappan culture flourished *c* 2700–1900 BC along the Indus river and the coastal region to its south. The culture occupied an area of *c* 800,000 km^2 and settlement ranged from small villages to extensive towns. The largest of the urban sites, each averaging some 80-85 ha in size, were Harappa in the north, Mohenjo-daro on the middle Indus and the more recently discovered but unexcavated Ganweriwala in Bahawalpur. These major urban sites reveal citadels, large civic buildings, a wide range in dwelling sizes, and extraordinary evidence of plumbing and sanitation, including large bathing facilities. The towns were constructed of fired brick and archaeologists have often been mesmerized by the uniformity in construction techniques, brick sizes, the Indic system of weights and measures, and other expressions of Indic technological and mathematical sophistication. Ironically, this manifestation of apparent cultural homogeneity is not matched by the evidence of physical anthropology which suggests considerable heterogeneity among the populations of the various Indus urban centers. The Harappan culture was engaged in extensive trading relationships in both raw and finished material which included a distant trading outpost at Shortugai on the Amu Darya (Oxus). It also traded with Akkadians where it is generally identified with *Meluḫḫa*, a name which has been compared with OInd *mleccha*, a word appearing in the later Vedas (e.g., *Śatapatha Brāhmaṇa* 3.2.1.23-24) applied to non-Vedic-speaking strangers.

The economic basis of the Harappan civilization depended on domestic plants and livestock. Among the domestic animals, the most prominent were the zebu (*Bos indicus*), the domestic cow (*Bos taurus*), the sheep (*Ovis aries*) and goat (*Capra hircus*) with possible identifications of the domestic water buffalo (*Bubalus bubalus*) and the Bactrian camel (*Camelus bactrianus*). Wild species from the Harappan sites included the Indian elephant (*Elaphas maximus*), one-horned rhinoceros (*Rhinoceros unicornis*), wild boar (*Sus scrofa*), chital (*Axis axis*), hog deer (*Axis porcinus*), swamp deer (*Cervus duvauceli*), nilgai (*Boselaphus tragocamelus*), blackbuck (*Antilope cervicapra*), gazelle (*Gazella bennetti*) and possibly wild sheep, goat, water buffalo and onager (*Equus hemionus*).

The agricultural basis of the Harappans varied according to region with influences deriving from western Asia (wheat [*Triticum compactum*], barley [*Hordeum vulgare*], pea, etc.), east Asia (rice [*Oryza sativa*]) and Africa (pearl millet [*Pennisetum typhoides*], finger millet [*Eleusine coracana*] and sorghum millet [*Sorghum bicolor*]). There is some evidence for sesame as well.

The Harappan culture undoubtedly contributed much to the further development of Indian culture; however, it is questionable whether its contributions were primarily linguistic. The Indus towns have yielded a series of seals providing evidence of the still undeciphered and possibly undecipherable Indus script. While the identity of the builders of the Indus towns cannot be proven, they are more likely to have been Dravidian-speakers rather than Indo-Aryans. There is strong circumstantial evidence to indicate that the Indo-Aryan-speakers superimposed themselves on Dravidians who now occupy the southern third of India but whose earlier distribution extended much further northward; one of the Dravidian languages, Brahui, is still situated north-west of the Indus (if not more recently moved there). Attempts to translate the Indus inscriptions via a Dravidian key have met with some level of possible success.

The collapse of the Indus towns was once credited to invasions of Indo-Aryans although this relied on a minimum of evidence—thirty-eight unburied corpses in the upper levels of Mohenjo-daro, some indicating violent deaths—and a liberal reading of the *Ṛgveda* which speaks of the sacking of strong-holds. The invasion theory, at least as the cause of the collapse of the civilization, is no longer given much credit and other factors, particularly environmental, are sought as more likely causes.

See also CEMETERY H CULTURE; INDO-IRANIAN LANGUAGES; PAINTED GREY WARE CULTURE; SWĀT CULTURE. [J.P.M.]

Further Readings

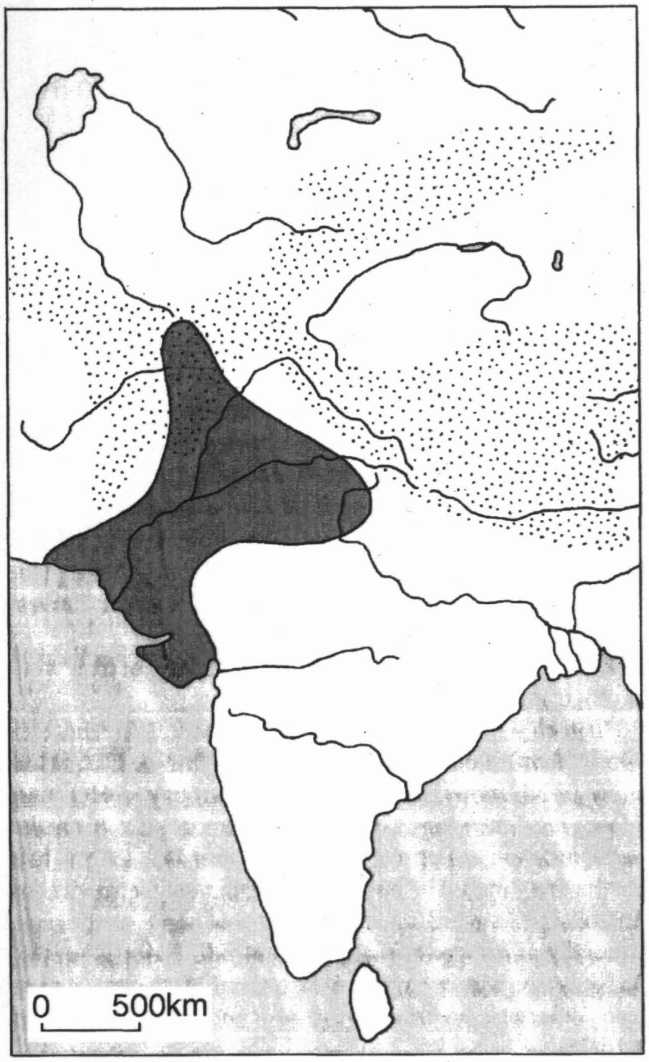
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HARE

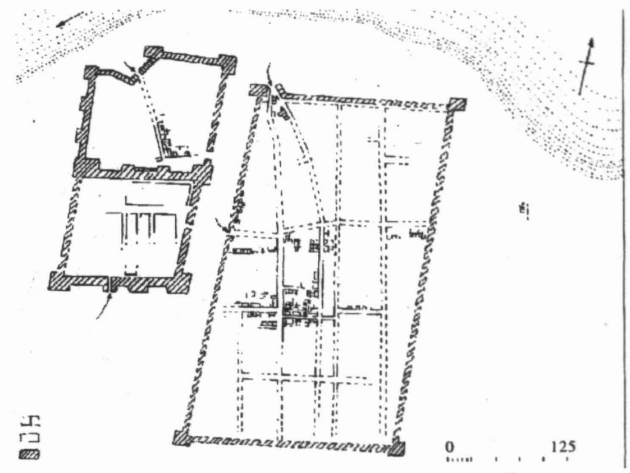
***k̂asos ~ *k̂asen-** 'hare (*Lepus europaeus*)'. [*IEW* 533 (**k̂as-*); Wat 27 (**kas-*); Gl 440 (**k̂^{h}as- ~ *k̂^{h}as-no-*)]. Wels *ceinach* (< **k̂asnī- + -āko-*) 'hare', ON *heri* 'hare', OE *hara*



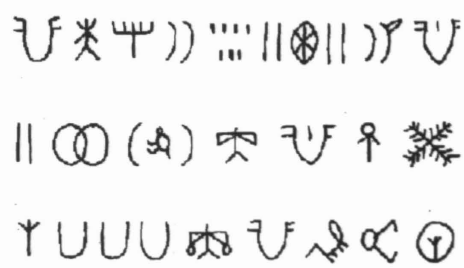
Harappan a. Distribution of the Harappan culture.



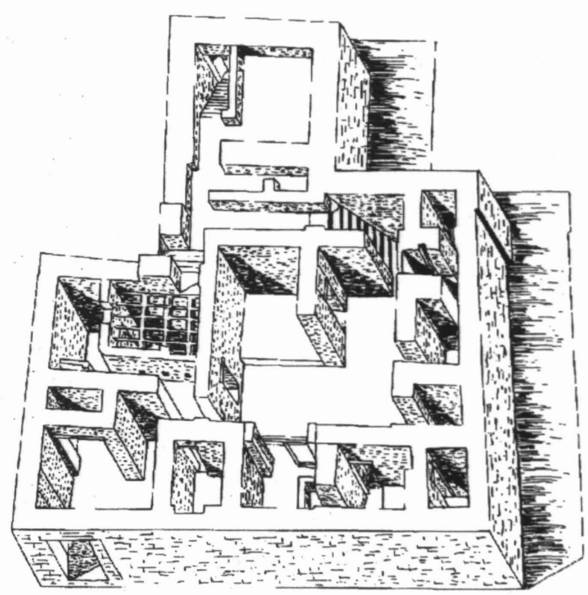
Harappan b. Indus Valley seal with seated figure.



c.



d.



e.

Harappan c. Outline plan of Kalibangan with adjacent citadel; d. The longest Indus Valley inscription; e. House from Mohenjo-daro.

'hare' (> NE *hare*), OHG *haso* 'hare', OPrus *sasins* 'hare', Khot *saha-* 'hare', OInd *śaśá-* (< **śasa-*) 'hare'. Cf. Lat *cānus* 'gray'. GI suggest that Hit *sasa-*, the designation for some otherwise unknown animal, might mean 'hare' and the word borrowed from Indo-Iranian. Originally the 'gray one' or the like (cf. Lith *šìrvis* 'hare' to *šir̃vas* 'gray'); the meaning 'hare', however, is at least of late PIE date.

The hare (*Lepus europaeus*) is virtually ubiquitous in Eurasia (in India we have *Lepus nigricollis*) and occasionally found in quantities that suggest more than chance encounters, i.e., deliberate hunting or trapping of hares for meat or fur. The animal is wild and has never been domesticated although the ancient Romans did keep hares in their *leporāriōnes*. This was far more easily done than the maintenance of rabbits as the hare, unlike the rabbit, lives above ground and does not burrow. The rabbit (*Oryctolagus*) was originally confined to Iberia and southern France and when the Phoenicians made its acquaintance in the twelfth century BC, they transferred to the new animal their own word for the closest animal to the rabbit in their own country, the 'hyrax', which also burrows. The name of the rabbit was extended to the coast of the land in which these small animals lived and hence Phoenician *i-shephan-im* was later latinized to *Hispania*. It was the Romans who carried the rabbit out of Spain and into the empire although its introduction into the British Isles is attributed to the Normans, hence OFrench (pl.) *conis*, and then ME *cunin* 'rabbit', MIr *coinīn*, Wels *cwningen*. Lat *cunīculus* 'rabbit' is derived from an Iberian language; cf. Basque *unchi*.

See also GRAY; MAMMALS. [D.Q.A., J.P.M.]

HARM

peh₁(i)- 'harm'. [*IEW* 792–793 (**pē(i)-*); Wat 47 (**pē(i)-*)]. Lat *patior* (< **pḫ₁-t-*) 'suffer', ON *fjá* 'hate', OE *fēon* ~ *fēogan* 'hate', OHG *fīen* 'hate', Goth *fijan* 'hate', Grk πῆμα 'suffering, misfortune', OInd *pī́yati* 'reviles, blames'. Some doubt exists over whether both the Latin and Greek forms belong with this set; even without them, the root is attested at the extremes of the IE world and that argues for some antiquity.

dhebh- 'harm'. [*IEW* 240 (**dhebh-*); GI 133 (**dʰebʰ-*); Buck 11.28; BK 140 (**dʸab-/**dʸəb-*)]. Lith *dobiù* 'beat, hit, kill', Hit *tēpu-* 'few, little', *tepnu-* 'belittle', Av *dab-* 'deceive', OInd *dabhnóti* 'hurts, injures; deceives; abandons'. A word of the center and east of the IE world.

mel- 'harm' (pres. ***mel-se/o-***). OIr *mell* 'harm, destruction', *millid* 'harms', TochB *mäl-* '± wound, damage' (pres. *mäl-sᵃ/e-* < **mel-se/o-*). The exact morphological equation between Old Irish and Tocharian would seem to guarantee PIE status for this verb. On the basis of the meaning it is probable that this **mel-* is the same as in **melh₂-* 'grind'.

dhu̯erhₓ- 'harm'. [GI 115; BK 144 (**dʸaw-/*dʸəw-*)]. Hit *duwarnai-* 'breaks, shatters', OInd *dhvárati* 'bends, causes to fall, hurts', *dhūrvati* 'injures, causes to fall', *dhūrtí-* 'injury'. Though attested only in these two stocks, it is likely that this is a word of PIE age. Perhaps an enlargement of **dhu̯er-* 'pierce'. Sometimes associated with this root is the enlargement **dhu̯er(hₓ)gh-* seen in ON *dvergr* 'block of wood; dwarf', OE *dweorg* 'dwarf' (> NE *dwarf*), OHG *twerk* 'dwarf' (> NHG *zwerg* 'dwarf').

See also BAD; DECEIVE; INJURE; PAIN; PIERCE; WOUND. [M.N., D.Q.A.]

HARROW *see* PLOW

HARVEST

kerp- 'pluck, harvest'. [*IEW* 944 (*(*s)kerp-*); Wat 30 (**kerp-*); GI 597 (**kʰerpʰ-*); Buck 8.41]. MIr *corrān* 'sickle', *cirrid* 'mangles, maims' (if not from *cerr* 'crooked'), Lat *carpō* 'pluck', ON *harfr* 'harrow', OE *hærfest* 'autumn' (> NE *harvest*), OHG *herbist* 'harvest', Lith *kerpù* 'cut, shear, clip (of hair or wool)', Latv *cìrpu* 'shear', *cir̃pe* 'sickle', OCS *črŭpǫ* 'ladle out', Grk καρπός 'fruit' (< '*what is plucked'), κρώπιον 'sickle', OInd *kṛpāṇī* 'dagger', *kṛpāṇa-* 'sword'. Widespread and old in IE. It apparently was a general word for 'harvest' (ultimately derived from **(s)ker-* 'cut') that had a tendency in some stocks to be specialized for the picking of fruit while in others for the reaping of grain.

h₂meh₁- 'mow'. [*IEW* 703 (**mē-*); Wat 39 (**mē-*); GI 596 (**Ham-*); Buck 8.32; BK 516 (**mi-/*me-*)]. OE *māwan* 'mow' (> NE *mow*), *mǣþ* 'mowing; mown hay', OHG *māen* 'mow', *mād* 'mowing', Grk ἀμάω 'mow, cut', Hit *hamesha-* (< **h₂meh₁-sh₂o-*) 'spring, ± early summer, i.e., ± April-July' (< *'haying time'). The apparent agreement of Germanic and Anatolian in a word for 'mow' seems of some significance culturally, as it suggests that the Proto-Indo-Europeans cropped grass for winter hay. An enlargement of **h₂em-* '± mow, reap', otherwise unattested, that also underlies the next two entries.

h₂met- 'mow'. [*IEW* 703 (**m-e-t-*); Wat 39 (**mē-*); GI 597 (**meH(i)-*); Buck 8.32]. OIr *meithel* 'reaping party', *meithleōir* 'reaper', Wels *medi* 'reaper', *medel* 'reaping party', Lat *metō* 'mow, harvest', OE *mǣd* 'meadow, pasture' (oblique case form> NE *meadow*). An enlargement of **h₂em-* '± mow, reap' found in the northwest of the IE world.

h₂merg- 'gather, harvest'. [cf. *IEW* 738 (**merĝ-*); GI 486 (**merk̂-*)]. Lat *mergae* (pl.) 'reaping boards (used in pairs for stripping the ears of standing grain)', *merges* (gen. *mergitis*) 'sheaf', Grk ἀμέργω 'gather, harvest, pluck, pull'. Though limited to only two stocks, this word would appear to be another enlargement of **h₂em-* '± mow, reap'.

See also AGRICULTURE; GRIND; THRESH. [D.Q.A.]

HASANLU

This multiperiod tell-site in Azerbaijan near Lake Urmia impinges on both the problem of Indo-Aryans in the territory of the Mitanni and in the possible iconographic representation of early IE mythology. The site is associated with West Iranian Grey Ware, a ceramic horizon dated to *c* 1500–1000 BC. With the appearance of this ceramic horizon, there is a major break in the cultural sequence which is often associated with early



Hasanlu Figures from the Hasanlu bowl. The scenes have been variously interpreted in terms of Indo-Iranian, Anatolian and Hurrian myth. Note the combat with the three-headed monster (common to both Indo-European and non-Indo-European traditions) on the lower right.

Indo-Aryan or Iranian movements south of the Caspian Sea. The site has yielded objects with artistic motifs which may be tied to those of either Iranian-speaking tribes of the steppe region, e.g., portrayals of individuals bearing mirrors, or to the mythological motifs found in Indo-Iranian religion. Most prominent of the finds is a golden bowl from a shrine at Hasanlu, dated to *c* 1500–1000 BC. Among the scenes depicted are one of a hero associated with a three-headed monster and in another scene with a bird of prey. G. N. Kurochkin has linked these scenes with Yašt 5 of the *Avesta* where the hero Θraētaona confronts the three-headed monster Aži Dahāka and then later assists Pāurva to fly to heaven in the form of a bird of prey. The three-headed monster motif is also known from Indo-Aryan mythology (where Trita Āptya slays Viśvarūpa) and may also be found in other IE traditions. This richly ornamented vessel has been the subject of numerous other studies which have also sought links with Assyrian, Anatolian and Hurrian narrative and artistic motifs. If the motifs are broadly Indo-Iranian (or at least their narratives as new tales can be fitted to old pictures), given its location, the site is most likely to be regarded as a possible Indo-Aryan site associated with the Mitanni. Hasanlu was destroyed about 800 BC, presumably by the Urartians.

See also INDO-IRANIAN LANGUAGES; MARLIK; THREE-HEADED MONSTER. [J.P.M.]

Further Readings

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HATE

***$h_3$ed-** 'hate'. [*IEW* 773 (*od-); Wat 45 (*od-); GI 113; Buck 16.41]. Lat *ōdī* 'hate', *odium* (noun) 'hate', ON *atall* 'fierce, terrible', OE *atol* 'atrocious', Grk **ὀδύσσασθαι** 'be angry at, hate', **Ὀδυσσεύς** 'Odysseus' (< 'Fearsome'), Arm *ateam* 'hate', Hit *hatukzi* 'is terrible', *hatugnu-* 'terrify', *hatuki-* 'fearful'. Reasonably widespread, certainly old in IE.

***ḱe$h_a$des-** '± concern; hate'. [*IEW* 517 (*ḱād-); Wat 26 (*kād-); GI 113; Buck 16.31]. MIr *cais* 'hate', Wels *cawdd* 'offence', Osc *cadi-* 'enmity', ON *hatr* 'hate', OE *hete* 'hate, malice' (> NE *hate*), OHG *haz* 'hate', Goth *hatis* 'hate, anger', Grk *κῆδος* 'care, concern; sorrow, mourning for the dead', Av *sādra-* 'grief', perhaps OInd *ni-śādas* if 'caring for a stranger'. In "eastern" IE we find a more general meaning 'concern' while in "western" IE we find the negative concern, 'hate'.

***$h_a$leit-** '± do something hateful or abhorrent'. [*IEW* 672 (*leit-); Wat 36 (*leit-)]. OIr *lius* (< *$h_a$lit-tu-) 'abhorrence', ON *leiðr* 'disagreeable, loathsome', OE *lāþ* 'disagreeable, loathsome' (> NE *loath*), OHG *leid* 'disagreeable, loathsome', Grk *ἀλείτης* 'sinner', *ἀλοιτός* 'sinner', *ἀλιταίνω* 'trespass, sin', *ἀλῑτρός* 'evil'. A word of the west and center of the IE world.

***peik/ḱ-** 'be hostile, hate'. [*IEW* 795 (*peiĝ- ~ *peiḱ-); Wat 47–48 *peig- ~ *peik-)]. OE *fāh* 'hostile, outlawed; foe' (> NE *foe*), OHG *fēhida* 'hate, strife', *fēhan* 'to hate', *gifēh* 'hostile', OPrus *paikemmai* 'we deceive', Lith *peĩkti* 'blame, rebuke, censure', *pìktas* 'evil', Arm *hēk'* 'unfortunate, suffering', OInd *píśuna-* 'backbiting, wicked' (< *'hating').

Widespread and surely old in IE. Only Old Indic appears to reflect PIE *-ḱ- rather than *-k- and this divergence may reflect some purely Indic development. Also here, reflecting PIE *peig-, are OE *fācen* 'treachery, malice, deception', *ficol* 'sly' (> NE *fickle*), OHG *feihhan* 'slyness, deception'.

See also ANGER; BAD; CONTEND; ENEMY; GRIEVE; INSULT. [D.Q.A.]

HAUNCH

ḱlóunis '± haunch, hip'. [*IEW* 607–608 (**ḱlou-ni-*)]. Wels *clun* 'haunch', Lat *clūnis* 'buttock, haunch (of animals)', ON *hlaun* 'buttocks, loin', OPrus *slaunis* 'thigh', Lith *šlaunìs* 'haunch, hip', Latv *slaũna* 'haunch, rump', Grk *κλόνις* (with unexpected vowel) '*os sacrum*', Av *sraoni-* 'buttock', OInd *śróṇi-* 'buttock, hip, loin'. A strong candidate for PIE status.

srḗno/eh_a- '± hip, thigh'. [*IEW* 1002 (**srēno-*)]. Lith *strénа* (dial. *srénа*) 'loin', Av *rāna-* 'thigh'. A Balto-Iranian isogloss that does not appear to have been widespread even in the east and must have had a very restricted role in the latest PIE.

See also ANATOMY; BUTTOCKS. [D.Q.A.]

HAVE *see* HOLD

HAWK *see* FALCON

HAWTHORN

$h_2$ed(h)- 'hawthorn'. OIr **ad* (gen. *aide*) '± hawthorn, whitethorn', Hit *hat(t)-alkísnas* 'hawthorn/whitethorn branch'. Although the distribution is limited to two stocks, their distance from one another and the fact that Hittite is included suggests PIE antiquity. In early Irish tradition, the whitethorn or hawthorn was employed in black magic, including the piercing of a clay image of one's enemy with its thorns. In Hittite religion, hawthorn was employed in a purification ritual, signalling that the plant may have played an important ritual role in PIE times.

The hawthorn (*Crataegus*) is relatively ubiquitous across Europe and southwest Asia and some varieties produced fruit which were clearly gathered from the Neolithic period onwards.

See also SLOETREE; TREES. [J.P.M.]

Further Reading

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HAZEL

kós(V)los 'hazel (*Corylus avellana*)'. [*IEW* 616 (**kos(e)lo-*); Wat 32 (**koselo-*); GI 547 (**k^hos(e)lo-*); Fried 73–77]. OIr *coll* 'hazel', OWels *coll* 'hazel', Gaul *Coslo-* 'hazel', Lat *corulus* 'hazel', ON *hasl* 'hazel', OE *hæs(e)l* 'hazel' (> NE *hazel*), OHG *hasal* 'hazel', Lith *kasùlas* 'hunter's spear, stick, bush'.

This word is supported by regular correspondences in three stocks: Celtic, Italic and Germanic, all meaning 'hazel', which attest a masculine *o*-stem. The dialectal, northwestern status is broken by Baltic where the meanings extend to 'spears' and other objects. It has been suggested that the 'hazel' word derives from a non-IE substrate term (< **ko-sŭ-lo-?*, cf. the proposed underlying substrate word for 'apple' **ă-bŏ-lo-*). This is archaeologically plausible in that the remains of hazel nut shells on prehistoric sites and evidence for the possible maintenance of hazel tree growth through selective burning is widespread across northwest Europe during the Mesolithic period (*c* 8500–4000 BC).

Hazel shoots, tough and pliable, have long been used for spears, spits, fishing poles and the like, and for wands to ward off lightning and to symbolize legal authority. The Old Irish tree-lists set hazel among the noble trees because of its use as rods. Aside from its withies, the hazel has also been long valued for its nuts, which are common on archaeological sites from the Mesolithic period onwards. The hazel (*Corylus*), after long coexistence, mainly as an understory, with pine and birch, spread sensationally during the so-called "hazel period" of the late Atlantic—which corresponds roughly to the late PIE and early dialectal IE period—and was virtually ubiquitous across prehistoric Eurasia.

See also TREES. [P.F.]

HEAD

ḱr̥réh₂ (gen. ***ḱr̥h₂ós***) 'head'; ***ḱórh₂sr̥*** (singulative)/ ***ḱérh₂or*** (collective) 'head'. [*IEW* 574–576 (**ḱer-*); Wat 29 (**ker-*); GI 712–713 (**k^h(e)rHs-r/n-*); Buck 4.20; BK 200 (**ṭ̣$[^h]$ir-/*ṭ̣$[^h]$er*)]. Grk (Ionic) *κάρη* (nom./acc.) 'head', *ἐπὶ κάρ* (< **ḱr̥h₂*) 'headlong', Av *sāra-* (< **ḱērh₂-o-*) 'head', Hit *kit-kar* (< **-ḱr̥h₂*) 'headlong'; Lat *cerebrum* (< **ḱerh₂sr-o-*) 'brain', ON *hjarsi* (< **ḱérh₂sen-*) 'crown of the head', OHG *hirni* (< **ḱérh₂sn-ii̯o-*) 'brain', Alb *krye* (pl.) *krerë* (< **ḱroh₂sn-o-*) 'head', Grk *κρᾱ́ατος* (< **ḱr̥h₂snós* with *-t-* analogically added after the *-n-*) 'of the head', *καράρᾱ* (< **ḱr̥h₂sr-eh_a-*) 'head', *κρᾱνίον* (< **ḱr̥h₂sn-ii̯o-*) 'crown of the head', Hit *harsar* (gen. *harsanas*, nom./acc. pl. *harsār*) 'head' (< **harshar* by assimilation < **karshar*, the second *-h-* is lost in the cluster **-rhs-*), Av *sarah-* 'head', OInd *śíras-* (gen. *śīrṣṇás*) 'head' (the Indo-Iranian nom. is built on the oblique cases), TochB *krañiye* (< **ḱr̥h₂sn-ii̯o-*) 'neck' (< *'occiput'). This is an extremely complicated etymon that is entangled in many ways with words meaning 'horn', though there may be some evidence that 'head' is **ḱerh₂-* while 'horn' is **ḱr̥reh₂-*. In any case, these words for head are of great antiquity in IE.

ghebhōl 'head'. [*IEW* 423 (**ghebh-el-*); Wat 21 (**ghebh-el-*); GI 713 (**g^heb^h-(e)l-*); Buck 4.20; BK 219 (**gub-/*gob-*)]. ON *gafl* 'gable, gable-side', OHG *gibil* 'gable', *gebal* 'skull, gable', Goth *gibla* 'gable', Grk *κεφαλή* 'head, top', Macedonian (Illyrian?) *κεβ(α)λή* 'head', TochA *śpāl* 'head', TochB *śpāl-meṃ* 'excellent'. More sparsely attested, but almost as widespread geographically as the previous entry; a good candidate for (late) PIE status.

káput 'head'. [*IEW* 529–530 (**kap-ut*); Wat 27 (**kaput*);

GI 713 (*$k^h a p^h u t^h$-); Buck 4.20]. Lat *caput* 'head', ON *hǫfuð* 'head', OE *hafud* 'head'. Related in some fashion are ON *haufuð* 'head', OE *hēafod* 'head' (> NE *head*), OHG *houbit* 'head', Goth *haubiþ* 'head'. Here we have a clear case for an Italo-Germanic innovation that held at best a very restricted position in the latest phase of PIE (however, see next entry).

kapōlo- '± head, skull'. [IEW 530 (*kap-(ē)lo-*); GI 713 (*$k^h a p^h$-el-*); Buck 4.20]. OE *hafola* 'head', OInd *kapā́la-* 'cup, bowl; skull'. Surely related in some fashion to the previous entry. Though very sparsely attested, the morphological identity and semantic closeness of the Old English and Old Indic words argue for at least late PIE status.

mḷ$h_x$dh-o- (Albanian, Avestan) ~ ***mḷ$h_x$dh-ón-*** (Old English, Old Indic) 'crown of the head'. [*IEW* 725 (*melōdh-*); Buck 4.20]. OE *molda* 'crown of the head', Alb *mal* 'mountain' (if < *'summit' < *'head'), Av *ka-mərəδa-* 'head (of a demonic being)', OInd *mūrdhán-* 'head'. Cf. Grk *βλωθρός* '± high grown'. At least a late PIE word.

The association between the concept of 'head' and 'pot' is quite frequent among the IE languages, e.g., OE *hafola* 'head' and OInd *kapā́la-* 'cup, bowl; skull' or ON *kollr* 'head' but *kolla* 'pot', and in the Old Indic ritual offering of the Pravargya, a clay pot is used to represent the 'head' of a human figure. A similar relationship is revealed by the change of Lat *testa* 'earthen vessel, pot' to French *tête* 'head'.

See also ANATOMY; HORN; POT. [D.Q.A.]

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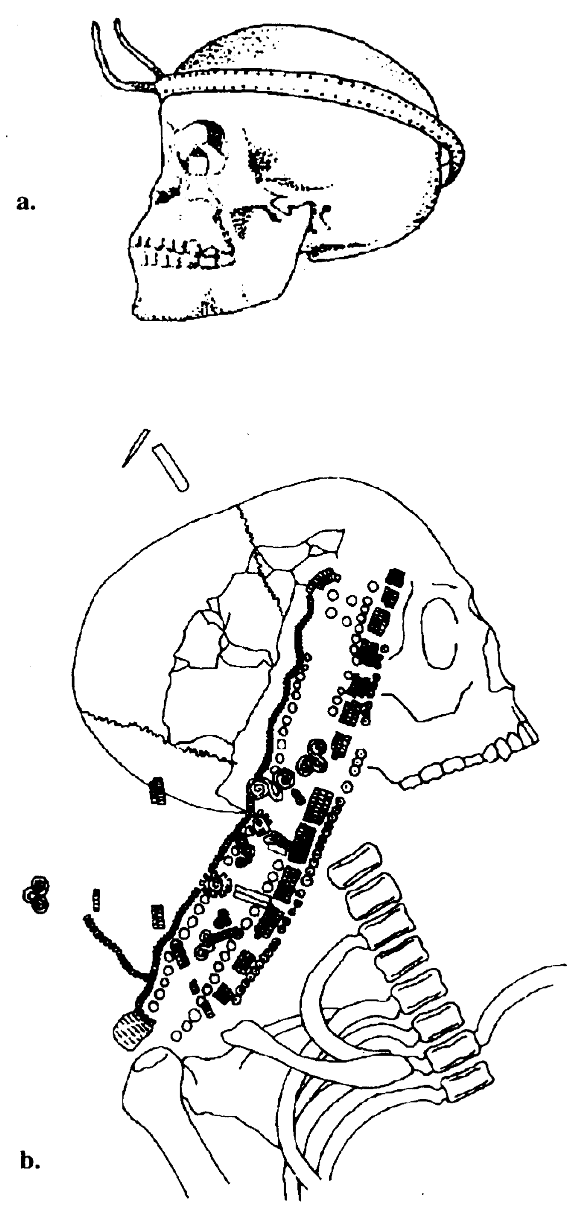
HEADBAND

puḱ- 'headband'. [*IEW* 849 (*puḱ-*)]. Grk *ἄμπυξ* (< *ana-puks*) 'metal headband', Av *pusā-* 'diadem'. Though only attested in two IE stocks, it may be that we have reflexes of at least a late PIE word here. The Greek word refers specifically to a headband worn by women, e.g., one is worn by Andromachē (*Iliad* 10.469).

dḗ$h_1$mn̥ 'band'. [*IEW* 183 (*dē-mn̥*); Wat 10 (*dē-*)]. Grk *διάδημα* 'diadem', OInd *dā́man-* 'band'. From *deh_1-* 'bind'. A word of the IE southeast.

Although infrequent as an archaeological find, metal diadems do occur from as early as c 5000–4500 BC where golden diadems are recorded from the Copper Age cemetery at Varna, Bulgaria. Such finds do not appear to represent the beginning of a continuous development in Europe and it is generally about 3000 BC that we begin to find metal diadems over a broader area of Eurasia. A fine example derives from the burial of a male in the Baden culture cemetery at Vörs in Hungary where a copper diadem some 67 cm long was wrapped about the skull. Gold diadems are particularly evident about 2500–2200 BC during the "Treasure Horizon" in Anatolia where they have been recovered from Alaca Hüyük and Troy II, the latter including the famous headdress bound by a golden band worn by Sophie, the wife of Heinrich Schliemann, the excavator of Troy.

See also CLOTHING. [D.Q.A., J.P.M.]



Headband a. Copper diadem from Baden culture, Vörs, Hungary; b. Headband from burial of Abashevo culture, Vilovatovo, Russia.

HEAL

$h_{1/4}$eis- 'refresh (using a liquid), renew the strength of'. [*IEW* 299 (*eis-*); Wat 16 (*isə-ro-*); GI 702 (*eisHro-*)]. Grk *ἱερός* 'manifesting divine power, holy; hallowed, consecrated',

ἰάομαι (< **ihy-ā-* < **$h_{1/4}$isi̯-eh_a-*, a denominative of **$h_{1/4}$is-i̯o-* 'strong') 'heal, cure', *ἰατρός* 'doctor', *ἰαίνω* (< **$h_{1/4}$is-n̥-i̯e/o-*) 'warm, heat, cheer, refresh', Hit *iski(ya)-* (< **$h_{1/4}$is-k̂e/o*) 'salve (to groom or to medicate), anoint (for ritual purposes)', Av *īš-* 'strength', *aēša-* 'strong', OInd *íṣ-* 'refreshment, comfort, strength', *iṣáyati* 'is fresh, strong, lively; refreshens, enlivens', *iṣirá-* 'strong, lively', *íṣ-kr̥ti-* 'healing', TochB *aise* 'power, surplus'. An old word in PIE which at least in Indic and Greek came to have a specifically medical meaning. Probably not derived from **$h_1$eis-* 'set in motion'.

***med-** 'heal, cure'. [*IEW* 705–706 (**med-*); Wat 39 (**med-*); GI 711 (**met'-*); Buck 4.87; BK 527 (**mat'-/*mət'-*)]. Lat *medeor* 'heal, cure', *medicus* 'doctor', Grk *Μῆδος* (healing divinity), cf. Mēdēa (healer consort of Jāsōn), Av *vī-mad-* 'healer', *vi-maδaya-* 'act as a healer'. Probably a specialization of **med-* 'measure' (i.e., 'judge well'). Though only sparsely attested, there is reasonable evidence to suggest that this meaning of **med-* is of late PIE age.

***i̯ak(k)-** '± cure, make well'. [*IEW* 504 (**i̯ēk-*); Wat 79 (**yēk-*); GI 718 (**yeHk^h-*)]. OIr *īcc* 'cure, treatment', Wels *iach* 'wholesome, healthy', Grk *ἄκος* 'cure, treatment, medicine', *ἀκέομαι* 'treat, cure'. It seems likely that these words belong together, though there are phonological difficulties (the **-k-* presupposed by Greek does not match the Celtic **-kk-* and the initial **ī-* of Old Irish is not well-explained). If so, then we have evidence for at least a late PIE word for 'curing'.

?*bher- '± cure with spells and/or herbs'. [cf. *IEW* 135 (**bher-*)]. Lith *bùrti* 'cast a spell, practice witchcraft, tell fortunes', Latv *bur̃t* 'cast a spell, practice witchcraft', Alb *bar* 'grass, herb, drug, medicine', Grk *φάρμακον* 'material, esp. an herb, bringing health or harm, drug, medicine'. It seems very likely that the Greek and Albanian words belong together, but whether the Baltic should be included is more dubious. There is at least the reasonable possibility that it should and that we have a PIE **bher-* '± cure with spells and/or herbs'. Further related to **bher-* 'bear' or **bher-* 'strike, cut down'?

See also MEDICINE. [D.Q.A.]

HEALTHY

***kóh$_a$ilus** 'healthy, whole'. [*IEW* 520 (**kai-lo-*); Wat 26 (**kailo-*); GI 712 (**k^{h}ai-lo-*); Buck 4.83]. Wels *coel* (< **keh$_a$ilo-*) '(good) omen', ON *heill* 'healthy', OE *hāl* 'hale, whole' (> NE *hale, whole*), OHG *heil* 'healthy', Goth *hails* 'healthy', OPrus *kails* 'hail!', (acc.) *kailūstikan* 'health', OCS *cělŭ* 'healthy', Grk (Hesychius) *κοῖλυ* 'good'. See following discussion.

***sólu̯os** 'whole'. [*IEW* 979 (**solo-*); Wat 62–63 (**sol-*); GI 711 (**sol-(w-)*); Buck 4.83; BK 162 (**s^{y}ul-/*s^{y}el-*)]. Lat *salvus* 'whole, well', Alb *gjallë* 'living, agile, deft', Grk *ὅλος* (< **hólwos*) 'whole', Av *haurva-* 'entire', OInd *sárva-* 'all, whole', TochA *salu* 'complete' (cf. Arm *olǰ* 'healthy, whole', TochB *solme* 'complete' with new suffixes). Together these two words cover the IE territory. Neither seems clearly older than the other. We find **sólu̯os* generally in the east and **kóh$_a$ilus* generally in the north and west. Only in Greek, if the Hesychian *κοῖλυ* is really Greek, do we find both.

See also MEDICINE. [D.Q.A.]

HEAP

?*méuh$_x$kōn (gen. ***muh$_x$knós**) 'heap'. [*IEW* 752 (**mŭk-*); Wat 43 (**mūk-*)]. ON *mūgi* 'heap', OE *mūga* 'heap', Grk (Hesychius) *μύκων* 'heap'. A possible word of the west and center of the IE world.

?*(s)keup- 'bundle'. [*IEW* 956 (**(s)keup-*); Wat 60 (**skeup-*)]. ON *skauf* 'sheaf', *skūfr* 'tassel, bundle', OE *scēaf* 'sheaf' (> NE *sheaf*), OHG *scoub* 'bundle', Rus *čup* 'tuft, head of hair, crest' (cf. also Slavic **kopa* 'heap; batch of sixty' in numerals, e.g., Polab *pöl-t'üpē* 'thirty' (< **pol-* 'half' + *kopy* 'sixty'). Perhaps a dialect word in late PIE.

See also ABUNDANT. [D.Q.A.]

HEAR

***k̂leu-** 'hear'. [*IEW* 605–606 (**k̂leu-*); Wat 31 (**kleu-*); GI 33 (**k̂^{h}leu-*); Buck 15.41; BK 260 (**k[^{h}]ul-/*k[^{h}]ol-*)]. OIr *ro-cluinethar* 'hears', Wels *clywed* 'hear', Lat *clueō* 'am called', Goth *hliuma* 'hearing', OCS *sluti* 'be called', Alb *quaj* 'call, name; consider', *quhem* 'be named; be regarded', Grk *κλέ(ϝ)ω* 'tell of, make famous', Arm *lsem* 'hear', *luaj* 'heard', Av *surunaoiti* 'hears', OInd *śr̥ṇóti* 'hears', *śrúti-* 'hearing', TochA *klots* 'ear', TochB *klautso* 'ear' (Toch < **k̂lou-ti̯eh$_a$-*). Cf. the widespread derivative **k̂lutós* 'known, renowned': OIr *cloth* 'fame', Wels *clod* 'fame', Lat *inclutus* 'famous', OE *Hloþ-*, OHG *Hlot-* the first part of several personal names (i.e., 'famed for'), Grk *κλυτός* 'famous', Arm *lu* 'known', OInd *śrutá-* 'famous'. With a new Germanic lengthened grade: OE *hlūd* 'loud' (> NE *loud*), OHG *hlūt* 'loud'. From **k̂lou̯eh$_a$-* either as a verbal or nominal derivative come OCS *slava* 'fame', TochAB *klāwā-* 'be called, named'. The verb forms a frequent framing device in IE poetry, e.g., OIr *ro-cūala* 'I have heard' and OInd *śuśrava* 'I heard' (both < **k̂uk̂lou̯h$_2$e*).

***k̂leus-** 'hear'. [*IEW* 606–607 (**k̂leu-s-*); Wat 31 (**kleu-*); GI 33 (**k̂^{h}leu-*); BK 260 (**k[^{h}]ul-/*k[^{h}]ol-*)]. OIr *clūas* 'ear', Wels *clust* 'ear' (Celt < **k̂lous-teh$_a$-*), ON *hlust* 'ear', *hlusta* 'listen', OE *hlyst* 'hearing', *hlystan* 'listen' (> NE *listen*), OHG *hlosēn* 'listen', OPrus *klausīton* 'answer', Lith *klausaũ* 'hear', Latv *klàusīt* 'hear', OCS *slyšati* 'hear', Messapic *klaohi* 'hear!', OInd *śróṣati* 'hears', TochA *klyoṣä-/klyosa-* 'hear', TochB *klyauṣä-/klyause-* 'hear'. An enlargement of the previous entry, further attesting to the antiquity of the former.

See also EAR; FAME; POETRY. [D.Q.A.]

HEART

***k̂ērd** (gen. ***k̂r̥dós**) 'heart'. [*IEW* 579–580 (**k̂erd-*); Wat 30 (**kerd-*); GI 701 (**k̂^{h}er-t'-*); Buck 4.44]. Lat *cor* 'heart', ON *hjarta* 'heart', OE *heorte* 'heart' (> NE *heart*), OHG *herza* 'heart', Goth *hairtō* 'heart', OPrus *seyr* 'heart', Lith *šerdis* 'marrow, heart', Lith *širdis* 'heart', Latv *sir̃de* 'marrow, heart', Latv *sir̃ds* 'heart', OCS *srŭdĭce* 'heart', Rus *sérdce* 'heart', *seredá* 'middle', Grk *κῆρ* 'heart', Arm *sirt* 'heart', Hit *kir* 'heart',

HierLuv *zar-za* 'heart', Av *zərəd-* 'heart', OInd *hṛ́d-* 'heart' (Indo-Iranian < *$\hat{g}h$ṛ*d-* with unexpected initial). Several groups show an old derivative **k̑ṛdi̯eh$_a$-*: OIr *cride* 'heart', Wels *craidd* (< **k̑redi̯om*) 'middle', Grk *καρδία* 'heart, stomach', OInd *hṛ́daya-* 'heart', TochA *kri* 'will', TochB *käryāñ* (pl.) 'hearts'. Pan-IE in form and meaning.

The frozen expression to 'put' or 'place heart', i.e., **k̑ṛed-dheh$_1$-* is strongly attested and indicates that in the period of PIE, the heart was regarded as the organ of belief or thought.

See also ANATOMY; BELIEF. [D.Q.A.]

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HEARTH

h_2eh_x-seh$_a$- 'hearth'. [*IEW* 68 (**ās-*); Wat 3–4 (**as-*); GI 605 (**Has-*)]. Lat *āra* 'hearth, fire-altar', Osc *aasaí* 'on the altar' (the Osc *-s-* is difficult since we would expect *-r-* as in Latin rather than *-s-*), Hit *ḫāssa-* 'fireplace, hearth' (cf. Osc *aasaí purasiaí* 'in the fiery hearth' and Hit *ḫāssi paḫḫur* 'fire in the hearth'), OInd *ā́sa-* 'ashes' (< *'burnings'). Cf. ON *aska* 'ash', OE *asce* 'ash' (> NE *ash*), OHG *asca* 'ash' (ON/OE/OHG < **h_2h_xs-g-eh$_a$-*), Goth *azgō* 'ash' (< **h_2h_xs-gh-eh$_a$-*), Arm *ačiwn* (< **h_2h_xs-g-i-*) 'ash'. From **h_2eh_x-* 'burn' (seen as a verb only in Palaic *ḫā-* 'be hot'). Cf. also OIr *āith* (< **h_2eh_x-ti-*) 'kiln'. Distribution assures PIE status.

h_2eh_x-tr-eh$_a$- 'hearth'. [*IEW* 69 (**āt(e)r-*); Wat 4 (**āter-*)]. Lat *ātrium* 'forecourt, principal room, room which contains the hearth' (< *'chimney-way over a hearth'), Alb *vatër* 'hearth' (whence *vatra* 'hearth' in Slavic [e.g., Czech *vatra*] and *vatră* 'fire' in Romanian). This is a derivative, limited to the west and center of the IE world, and not everywhere there, of **h_2eh_x-ter-* 'fire' (< *'burner') seen in Av *ātar-* 'fire', and, further derived, in Lat *āter* 'black' (< **$h_2eh_x$tr-o-* 'blackened by fire').

In Indo-European, the domestic hearth was often set at the center of the house and was the focal point of religious and social ceremonies. It was also an altar and therefore represented the expression of IE religious beliefs. These beliefs linked ancestor worship to the cult of the fire. The domestic hearth was the symbol of the basic social unit, the family. Through the rites and ceremonies around it the family hearth linked the members of a kin group both diachronically, through the cult of the ancestors, and collaterally. In the traditions of the Romans, Greeks and Indo-Aryans, a new hearth could only be established with the beginning of a new household when fire was brought from the bride's family hearth and in ancient Greece a child was accepted formally into the family only after it had been carried ceremoniously around the fire. Among the ancient Germans, in Greece and India, at the death of the head of the household the fire was ceremonially extinguished. The significance of the hearth and the fire was also featured in Hittite tradition which related special instructions and rituals to keep the hearth fire.

As hearths were being built even before the emergence of anatomically modern humans, their presence in the archaeological record can hardly be attributed to any particular ethnolinguistic group. The discovery of hearths is one of the most frequent manifestations of human settlement and the range of the evidence is both archaeologically (and in terms of lexical formations) linguistically varied: simple fires (e.g., Arm *hn-oc'* 'fire-place'), fire-pits (e.g., Arm *gehean* 'hearth' [< *geh* 'pit'], NPers *gau* 'pit'), stone enclosures for the hearth (OInd *agnigṛha-* 'fire-place' [< *fire-house']), plastered hearths. Those words for 'hearth' that can be reconstructed to PIE are far too vague to indicate the shape or appearance of a notional PIE hearth.

See also BURN; FIRE; FIRE CULT; GROUND. [A.D.V., D.Q.A.]

Further Readings

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HEAT

g^whermós 'warm (especially by fire, sun)'. [*IEW* 493–494 (*g^uhermo-*); Wat 25 (**g^wher-*); GI 589 (**g^{ho}er-m-*); Buck 15.85; BK 314 (**g^war-/*g^wər-*)]. Lat *formus* 'warm', ON *varmr* 'warm', OE *wearm* 'warm' (> NE *warm*), OHG *warm* 'warm', OPrus *gorme* 'heat', Latv *gar̃me* '(slight) warmth', Thracian *germo-* 'warm', *Γέρμας* (city characterized by hot springs), Alb *zjarm* 'fire', Grk *θερμός* 'warm', Arm *ǰerm* 'warm', Av *garəma-* 'hot', OInd *gharmá-* 'heat, glow'. Clearly of PIE status. From **g^wher-* 'warm'.

g^whrensós 'warm'. [*IEW* 495 (**g^uhrē-ns-o-*); Wat 25 (**g^wher-*); BK 314 (**g^war-/*g^wər-*)]. OIr *grīs* 'heat, fire', Wels *gwres* 'heat (of the sun, fire)', OInd *ghraṃsá-* 'heat of the sun'. From **g^wher-* 'warm' with relatively rare suffix suggesting IE antiquity.

tep- 'hot'. [*IEW* 1069–1070 (**tep-*); Wat 70 (**tep-*); GI 589 (**$t^he p^h$-*); Buck 15.85; BK 92 (**$t[^h]ap[^h]$-/*$t[^h]əp[^h]$-*)]. Lat *tepeō* 'be lukewarm', OE *þefian* 'to pant, gasp', Rus *topítĭ* 'to heat', Alb *ftoh* (*o*-grade causative < **$h_4$eps-top-eh$_1$-sk̑e/o-*) 'make cold', Av *tāpaiti* 'be warm', OInd *tápati* 'to warm, burn'; cf. OIr *te* ~ *tē* 'hot', Wels *tân* 'hot'. Also several suffixed forms such as **tep-(V)s-*: OIr *tess* 'heat', warmth', Wels *tes* 'heat', Lat *tepor* 'warmth', Umb *tefru* (< **teps-ro-*) 'burnt sacrifice', perhaps Hit *tapissa-* 'fever, heat', Luv *tapassa-* 'fever, heat' (which some treat as an Indo-Aryan loanword although it may also be from Proto-Anat **tapessa-* [< putative PIE

**topes-o-* with new *o*-grade and thematic suffix, with metathesis of gemination, i.e., **-pp...s-* > **-p...ss-*]), OInd *tápas-* 'heat', *tápuṣ-* 'heat, glow', *tapnú-* 'burning, glowing'. The case for a PIE root **tep-* is extremely strong.

u̯el- 'warm, heat'. [*IEW* 1140 (**u̯el-*); BK 495 (**wal-/ *wəl-*)]. ON *vella* 'bubble, boil', *ylr* 'warmth', *ylja* 'to warm', OE *weallan* 'boil, be hot', *wielm* 'boiling, surging, raging', OHG *walm* 'boiling, fervor', *walē* 'heat', Goth *wulan* 'be aglow with, seethe', Lith *vìdėti* 'make lukewarm', Alb *valë* 'heat, boiling', *vloj* 'boil, ferment, seethe', Arm *gol* 'heat', *golanam* 'warm oneself'. At least a word of the west and center of the IE world.

keh$_x$i- 'hot'. [*IEW* 519 (**kăi-*); Buck 15.85]. ON *heitr* 'hot', OE *hāt* 'hot, burning, glowing' (> NE *hot*), OHG *heiz* 'hot', Goth *heitō* 'fever', Lith *kaĩsti* 'to heat, to become hot, Latv *kàitêt* 'to burn, to singe, heat'. The Germanic forms are based on a **-d-* extension while the Baltic forms are based on **-t-*. Even aside from this minor formal difference, distribution points at best to a northwestern dialectal term.

See also BURN; DRY. [J.C.S.]

HEAVY

g^{w}reh$_x$-u- ~ ***g^{w}r̥h$_x$-u-*** 'heavy'. [*IEW* 476 (**g$^u̯$er-*); Wat 25 (**g^{w}erə-*); GI 685 (**k'^{o}(e)r-u-*); BK 339 (**k'^{w}ur^y-/ *k'^{w}or^y-*)]. MIr *bair* '?heavy', Wels *bryw* (< **g^{w}er-*) 'lively, vigorous, strong', Lat *gravis* (< **g^{w}r̥u̯i-* or **graus*) 'heavy', Goth **kaúrjōs* (only by assuming loss of labialization, otherwise unlikely) 'weighty, oppressive', Latv *grũts* 'heavy', Grk *βαρύς* 'heavy', OInd *gurú-* 'heavy'. Cf. TochB *krāmär* 'weight, heaviness', whence TochB *kramartse* 'heavy' and related TochA *krāmärts* 'heavy', which must reflect a putative PIE **g^{w}re/oh$_x$-mr̥*. Av *gouru-* 'heavy' has often been suggested here, but is found only in one compound where the reading 'heavy' for this element is unclear. Alb *zor* 'heaviness, trouble' has also been placed here. In spite of the weakness of several links, close correspondences from several stocks makes IE status likely.

tengh- 'be heavy, difficult'. [cf. *IEW* 1067]. ON *þungr* 'heavy, difficult, unfriendly', Lith *tingùs* 'idle, lazy, sluggish', *tìngti* ~ *tingėti* 'be slow, idle', OCS *o-tęžati* 'become heavy, loaded', *tǫga* 'anxiety, trouble', Rus *tjážkyj* 'heavy, pressing', *tugá* 'suffering', TochB *täṅk-* 'hinder, obstruct'. Old in IE.

See also LIGHT². [J.C.S., D.Q.A.]

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HEDGEHOG

h$_1$eĝhis 'hedgehog (*Erinaceus europaeus* [+ *Hemiechinus auritus*?])'. [*IEW* 292 (**eĝhi-*); GI 444 (**eĝ^{h}i-*)]. ON *igull* 'hedgehog', OE *igil* 'hedgehog', OHG *igil* 'hedgehog', Lith *ežỹs* 'hedgehog', Latv *ezis* 'hedgehog', OCS *(j)ežĭ* 'hedgehog', Rus *ež* 'hedgehog', Grk *ἐχῖνος* 'hedgehog', Phrygian *εζις* 'hedgehog', Arm *ozni* 'hedgehog, Oss *wyzyn* ~ *uzun* 'hedgehog'. Widespread and obviously old in IE. Traditionally this word is explained as a derivative of **h$_1$eĝhis* 'snake', the semantic connection being that the hedgehog is a 'snake-eater'. Alternatively, we may have two largely homophonous and unrelated, though secondarily associated, words.

ĝhḗr 'hedgehog (*Erinaceus europaeus* [+ *Hemiechinus auritus*?])'. [*IEW* 445 (**ĝhēr-s*); Wat 22 (**ghers-*)]. Lat *ēr* (< **hēr*) 'hedgehog', Grk (Hesychius) *χήρ* 'hedgehog'. Apparently a regional word for 'hedgehog' in IE. A root-noun from **gher-* '± pointed object, point'. It is at least possible that **h$_1$eĝhis* and *ĝhḗr* referred to the two different species of hedgehog but, if so, the exact semantic distribution is impossible to recover. The association of the word for hedgehog with a pointed object is a transparent reference to the animal's spines and there is a considerably body of folklore concerning the ability of the hedgehog to carry apples on its spines.

With the exception of the far north, the European hedgehog is distributed across Europe and most of Asia but only as far south as northwest Kazakhstan. The long-eared hedgehog (*Hemiechinus auritus*) is known from the rivers Don and Volga southeast across Iran (where it has been recovered from Neolithic contexts), Afghanistan and well into India. The European hedgehog is present on Mesolithic and Neolithic sites across Europe but never in numbers that would suggests anything other than chance encounter and there is no evidence that it was eaten as it later was during the Middle Ages, e.g., the Normans appear to have introduced it into Ireland and it is already presumed domesticated by the time of Aristotle in the fourth century BC. Among naturalists (presumably ignorant of the suggestions concerning its deep etymology), the hedgehog has long had a reputation as a snake-killer whose spines protect it from fangs and it is also known that it is unusually impervious to snake poison (the macroglobulins in its blood help prevent haemorrhaging from adder venom). Interest in the association between snakes and hedgehogs has even produced a number of experiments where hapless snakes have been placed in boxes with a hedgehog. In some instances the animals have ignored one another while in others the hedgehog has efficiently killed the snake by systematically biting it along its spine, and in one case, devouring the snake, although its normal diet is earthworms and insects. Records of hedgehogs killing adders also exist where this ordinarily sluggish mammal has successfully defeated an adder very much in the manner of a mongoose, i.e., by bobbing and weaving and tiring the snake before it strikes. While this need not secure the etymological association between the name of the hedgehog and that of the snake, it does rest on something stronger than fanciful folklore.

Killing of the hedgehog was proscribed in the *Avesta* (in the *Vīdēvdāt* 13.2-4, it is known as Vaŋhāpara or, to the evil-speaking people, Dužaka, and is described as a 'shy, pointed-nosed dog') and for practical reasons, the use of its spines in preparing cloth, the Romans also attempted to curtail its slaughter.

GI have suggested that the original referent of **h$_1$eĝhis*

was the mongoose (*Herpestes ichneumon*) which inhabited North Africa, Anatolia and Spain while the Indian mongoose (*Herpestes edwardsi*) occupies the subcontinent. While this animal was most certainly a 'snake-killer', it was primarily known only in ancient Egypt until the classical period when it was to be found in Greek naturalists' works and Rome where it became fashionable for ladies to keep mongooses. The Romans may have introduced it deliberately into Iberia to reduce the population of rabbits and it has been observed that there is a deficiency of small carnivores (e.g., the stoat and beech marten) generally in the Mediterranean. It is most unlikely that **h_1eĝhis* originally meant the 'mongoose' as the animal is conspicuous by its absence on European prehistoric sites (which do offer evidence for similarly sized animals such as martens, weasels, and hedgehogs), the meaning 'mongoose' is not attested in any of the IE stocks, its natural distribution is discordant with the general range of European cognates (Germanic, Baltic, Slavic, Greek), and the hedgehog satisfies any etymological demands required if one derives the animal's name from that of the snake.

See also MAMMALS; SNAKE; STIFF. [D.Q.A., J.P.M.]

HEEL

***pérsn-eh$_a$-** 'heel'. [*IEW* 823 (**persnā*); Wat 50 (**persnā*); Buck 4.35]. Lat *perna* 'haunch', OE *fiersin* ~ *fiersn* 'heel', OHG *fers(a)na* 'heel', Goth *fairzna* 'heel', Grk *πτέρνα* 'heel', Hit *parsna-* 'upper thigh'; with long vowel: Av *pāšna-* 'heel', OInd *pā́rṣṇī* 'heel', TochB *porsnai-* '± heel, ankle'. Clearly PIE in status.

***pēnt-** 'heel'. [*IEW* 988 (**(s)pen-(d)-*)]. OPrus *pentis* 'heel', Lith *péntis* 'butt-end of an ax', OCS *pęta* 'heel', Rus *pjatá* 'heel', Pashto *pūnda* (< **pāntā*) 'heel'. A word of the center and east of the IE world.

***spṛh$_1$óm** 'heel'. [*IEW* 992–993 (**sp(h)er-*); Wat 64 (**sperə-*)]. ON *spor* 'footprint', OE *spor* 'footprint' (> NE *spoor*), OHG *spor* 'footprint' (< **spṛh$_1$óm*), OE *spure* 'heel', *spora* ~ *spura* 'spur' (> NE *spur*), OHG *sporo* 'spur' (< **spṛh$_1$-o-on-*), *spuri-halz* 'lame', Grk *σφυρόν* (< **spṛh$_1$óm* though both the aspirate *-ph-* and the vowel *-u-* are unexpected) 'ankle(bone)', TochB *sprāne* (dual) '± flanks' (< **spṛh$_1$-o-on-*, the meaning < *'hollow above hips' < *'hips' < *'hock' as similarly for Lat *perna* above). From **sper(h$_1$)-* 'kick'. Also derived from **sper(h$_1$)-* are OIr *seir* 'heel' and Wels *ffêr* 'ankle' (< **sperets*). **spṛh$_1$óm* would appear to be at least of late PIE age.

See also FOOT; HOCK; KICK. [D.Q.A.]

HEIR *see* ORPHAN

HELLEBORE

***kemeros** '± hellebore'. [*IEW* 558 (**kemero-*)]. OHG *hemera* 'hellebore', Lith *kemẽras* 'marigold', ORus *čemerŭ* 'poison', *čemerī* 'hellebore', *čemer* 'pain, ache', Grk *κάμαρος* 'larkspur'. OInd *kámalam* 'lotus' is semantically distant and probably a Dravidian loanword. Both the hellebore and larkspur are members of the buttercup family. Probably a late word in at least the west and center of the IE world whose exact meaning is not recoverable.

See also PLANTS. [D.Q.A.]

HELL-HOUND

***k̑érberos** mythical dog of the underworld. [*IEW* 578 (**k̑erbero-*)]. Grk *Κέρβερος* (hound of Hādēs), OInd *śárvara-* (epithet of one of Yama's dogs). From **k̑erberos* 'piebald, spotted'. The linguistic equation is exact between the Greek and Old Indic forms.

The association of dogs with death and the otherworld is a common IE theme. They appear, singly or in pairs, to guide the soul to the afterlife in Indic and Iranian, to guard the afterworld in Greek, Roman, Germanic, and Celtic, and as choosers of the dead in Indic and Celtic. In Hittite, although the connection is unclear, dogs seem to be associated with the spirits of the dead.

The Old Indic Yama has two four-eyed dogs, *Śabala* 'Spotted' and *Śyāma* 'Black'. In *Ṛgveda* 10.14, they are referred to as guardian dogs and keepers of the path to the afterworld. Only the souls who have sacrificed properly may pass on to the happy afterlife. The *Atharvaveda* depicts the dogs as messengers of Yama, sent forth to choose those who are to die. In the epic tradition of the *Mahābhārata*, it is a dog that leads Yudhiṣṭira and his brothers northwards where each dies as they approach the afterworld until Yudhiṣṭira himself is invited by Indra to enter the next world.

In Iranian tradition, a four-eyed dog was brought in to a dead body in order for its gaze to expel the demons, particularly Nasu the goddess of decay who disguises herself as a fly on the body. The Daēna, or 'inner self' of the dead person, in the shape of a beautiful woman, escorts the souls of the righteous to Paradise accompanied by two dogs whose function is to guide the soul to the proper path by barking.

The three-headed Greek Kerberos is the best-known otherworldly dog, first attested in the *Theogony* 311. His duty was to maintain the boundary between Hādēs and the world of the living, although he could be bribed or drugged. Another resident of Hādēs, Hekatē, was also called 'Our Lady of Hounds', leading a swarm of ghosts and demonic barking dogs through the underworld nightly.

The Norse hell-hound is Garm, another guardian of the boundaries. The souls of those who have died of sickness or old age encounter him on their way to Hel; if they have ever given food to the hungry, they find a crust in their hands with which to propitiate him. The *Elder Edda* names two dogs, Gifr and Geri, guardians of the boundary between this world and another, who will keep watch night and day until the end of the world. One wishing to pass could give them the wings of Vīðofnir, a mythical bird, and slip past while they ate. Ōðinn has a pack of otherworldly hounds, and the Valkyries ride through the sky over battlefields on wolves.

In Welsh tradition, Gwyn ap Nudd, a god of the underworld, leads the Wild Hunt through the sky. He is accom-

panied by his dog Dormarth ('Death's Door'), perhaps another gate guardian. In Irish folklore, two dogs or wolves wait beside the dying person to pursue the soul at the moment of death.

Perhaps representing the devouring aspect of death, dogs have a clear role in Indo-European mythology as guardians of the path or gate to the otherworld and as choosers of the dead. In some traditions, e.g., Germanic and Greek, there is also evidence that the souls of those who for various reasons (suicide, childlessness, failure to marry, etc.) cannot enter the afterlife, must pass their intervening time in the form of dogs or wolves which regularly haunt cemeteries. Related is the belief indicated in the religion of Zaraθuštra that dogs (and birds) consume the flesh of the deceased wherein rests the soul that it may pass to the afterlife. In various IE traditions the worst throw of the dice is known as the 'dog' which is associated with death and fills a semantic sphere similar to that of the Ace of Spades in cards; conversely, the best throw is known as the 'dog-killer'.

The pairing or doubling of the dogs associated with mortuary beliefs is common and expressed either in pairs of dogs or the doubling of some feature of the dog, e.g., the four-eyed dogs of both Indic and Iranian tradition or perhaps a double-headed dog. These pairs are usually given contrasting colors, e.g., in Brittany and Armenia, they are black and white while in Indic tradition they are spotted and black. This pairing has been interpreted as an expression of the limnal aspect of the dog, resting on the junction between this life and that of the otherworld.

Some archaeological reflection of this network of beliefs has been recovered from prehistoric sites which have been associated by some with early Indo-Europeans. At Klady in the north Caucasus, a tomb of the Maykop culture dating to *c* 3300 BC yielded at the head of the deceased, among other things, two figures of dogs, one of bronze and one of silver, which are said to reflect the different colors of the two guardians of the dead in Indo-European myth. In a more general way, the burial of dogs with the deceased is so widespread that it can hardly be interpreted as a specifically IE rite. Burials accompanied by dogs are known at least since the Mesolithic period in Scandinavia where in southern Sweden they not only may accompany the deceased but in some instances have received individual interment and been provided with the same grave goods as found in the burials of humans. Dog remains are very infrequently found in Kurgan sites of the Pontic steppe, and normally in the form of teeth, jaws or occasionally a whole skull. There are exceptions, however, such as the burial of a dog over a grave of the Yamna culture. Dogs are also occasionally encountered in the presumably (Indo-)Iranian burials at Sintashta in the southern Urals. The suggestion by Gamkrelidze and Ivanov that the employment of dogs in burial rituals of the Shang dynasty derives from IE contacts is unpersuasive given the fact that dog burial and sacrifice is also found in the much earlier native Neolithic cultures of China.

See also DEATH BELIEFS; DOG. [L.J.H., J.P.M.]

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HELP

k̂elb- 'help'. [*IEW* 554 (**k̂elb-* ~ **k̂elp-*); Wat 28 (**kelb-*); Buck 19.58]. ON *hjalpa* 'help', OE *helpan* 'help' (> NE *help*), OHG *helfan* 'help', Goth *hilpan* 'help', Lith *šelpiù* 'help, support'. A northwest dialectal form.

[M.N.]

HEMP

?*kannabis 'hemp (*Cannabis sativa*)'. [Wat 27 (**kannabis*); GI 570–571]. OIr *cnāip* 'hemp', Lat *cannabis* 'hemp', ON *hampr* 'hemp', OE *hænep* 'hemp' (> NE *hemp*), OHG *hanaf* 'hemp', OPrus *knapios* 'hemp', Lith *kanãpė* 'hemp', Latv *kaņepe* 'hemp', OCS *konoplja* 'hemp', Alb *kërp* 'hemp', Grk *κάνναβις* 'hemp', Arm *kanap'* 'hemp'.

Hemp is an important source of bast fibres for textiles. It grows up to four or five meters in height, producing longer and coarser fibres than flax (though they are otherwise very similar to them). These fibres may be used for coarse cloth but are even better suited for making ropes and sails. Hemp seed is also traditionally used for its oil or as an animal feed, and, finally, as a narcotic.

Hemp is found in the wild state in Central Asia and it occurs on Neolithic sites from Germany, Switzerland, Austria, the Czech Republic (seed impressions on pots), Romania, Moldova (seed impressions on Linear Ware culture pots) and the Ukraine. Its presence in all these areas is sparse and it does not seem to have been common in Greece until the classical period although Herodotus (4.74) does mention its use among the Thracians.

The various attested words, while similar to one another, *cannot* reflect a common PIE source and their similarity must reflect a later series of borrowings from one IE stock to another. E. Barber has suggested that a common source, perhaps Thracian or Scythian, provided the Greek form which was then borrowed into Latin. It was also lent first into Slavic and then to Baltic and on to Finnish, and Germanic apparently borrowed the word before the first sound shift. There is also a possible Old Indic cognate *bhaṅgā-* which has been explained as a reversal of the original word, with labial first and velar last, i.e., **kan(n)aB-* > *?*Ban(a)g-*. The reversed position of the stops has been explained as an attempt to gain access to the spirit world by a reversal of order, comparable, for example, to a Black Mass where the mass is recited backwards. This borrowing of a new term for an old object could have been induced by a new variety of hemp which could be put to new purposes.

The old northern hemp that the PIE speakers and their neighbors had been using since 5,000 BC did not contain the narcotic THC. Presumably the "new and improved" hemp was improved precisely because it did contain THC. It has

been argued that the additional narcotic use of hemp is relatively late, appearing only in the first millennium BC. Herodotus, for example, records its use as a narcotic among the Iron Age Scythians and a complex of brazier, hemp seeds and wooden tripod to form a tent like structure, all described by a confused Herodotus as a "vapor-bath", has been recovered from the Iron Age royal tombs of Pazyryk in the Altai Mountains. It was by no means confined to the steppe region and hemp has also been discovered in Iron Age contexts in western Europe, e.g., a Hallstatt burial, presumably Celtic, at Hochdorf in Germany. It has been presumed that the narcotic uses developed in the steppe region and then diffused westwards during the Iron Age accounting for the particular pattern of loans. But it has also been suggested that this spread of hemp may date to a much earlier period. Hemp has not only been recovered from settlement sites in Romania but also from a Yamna burial at Gurbaneşti (Moldova) where traces were found in a "censer" (a shallow footed bowl believed to have been used in the burning of some aromatic substance). It has been found in a similar context from an early Bronze Age burial in the north Caucasus. These "censers", often highly decorated with "sunburst" motifs, are widespread across the steppe region in the third millennium BC (extending at least from the Dnieper to the Yenisei) and may be a part of a ritual complex. The censers also diffuse westwards at this time in Romania, Hungary and further along the Danube. As cannabis can also be infused, i.e., served as a component in a drink, it has also been suggested that the spread of cord-(hemp?) decorated pottery from the steppe westwards may also have been part of the same complex.

While attractive, this theory that emphasizes purely the narcotic nature of hemp does not entirely explain the later spread of *Cannabis sativa* in Europe. Hemp, for example, appears to have been employed in the making of textiles in Anatolia by at least the eighth century BC, was widely employed in the Near East and Greece in the first centuries BC and spread to Italy *c* 100 BC. It was also introduced into both Britain and Ireland during the first centuries BC and AD and during the early mediaeval period its primary use was in textiles where it was regularly coincidental with a rise in flax. There are thus at least three chronological horizons to which the spread of hemp might be ascribed: the early distribution of hemp across Europe during the Neolithic *c* 5000 BC or earlier; a later spread of hemp for presumably narcotic purposes about 3000 BC; a still later spread or, at least, re-emergence of hemp in the context of textiles during the first millennium BC. Given the fact that the word appears to involve inter-stock borrowing after the collapse of PIE, the more recent horizon appears to be the more attractive period for the spread of the word.

See also Henbane; Plants; Poppy. [D.Q.A., J.P.M.]

Further Readings

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HEN

kerk- 'hen'. [*IEW* 568 (**kerk-*); GI 515 (*k^herk^h-*); Buck 3.54]. MIr *cerc* 'brood hen', Grk **κέρκος** 'rooster', Av *kahrka-* 'hen', OInd *kṛka-vā́ku-* 'rooster', TochB *kranko* 'rooster'.

The hen, a Neolithic economic miracle, a bird that lays an egg every day, originated as the Red Jungle Fowl, and was borne westward. Its point of origin is disputed and while traditionally held to be India where it occurs at Mohenjo-daro *c* 2000 BC, there appears to be much earlier evidence from southeast Asia which would project its appearance back to before *c* 6000 BC and already by the sixth millennium BC it has expanded far beyond its natural range to reach the arid plains of northern China. Remains of *Gallus* are known from north of the Black Sea by *c* 3000 BC which has prompted the suggestion that the hen may have spread from China via the steppe region into Europe. The other route, from India to the Mediterranean, cannot be excluded although this would appear to have been later than the spread across the steppe. There is also some evidence of the hen from Greece in the period *c* 3000 BC. In general, the main rise in the dispersal of the *Gallus* is to be found in the later Bronze Age and the Iron Age. The archaeological evidence might suggest the possibility of reconstructing a common IE word for the hen (**kerk-*) across a number of stocks if not to PIE itself although the clearly onomatopoeic features of this word invites considerable caution.

See also Birds; Cock. [J.A.C.G., J.P.M.]

Further Reading

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HENBANE

bhel- 'henbane (*Hyoscyamus niger*)'. [*IEW* 120 (**bhel-*)]. Gaul *belinuntia* ~ **βελένιον** 'henbane', *Belenos* 'Apollō', OE *beolone* 'henbane', OHG *bil(i)sa* 'henbane', Rus *belená* 'henbane'. The exact form which this word took in PIE is not recoverable; however, its existence, at least in the west and center of the IE world, is assured. The plant appears to have been indigenous across most of Europe (it is known from the Neolithic Swiss lake-side dwellings and traces of henbane have been recovered from a mortuary structure in Scotland) and much of Asia where it was particularly prized for its narcotic (it produces hallucinations) and medicinal properties (it is a pain-killer and muscle-relaxer); it was also employed by Danish chicken-thieves to stun their victims. It has been traditionally consumed both by smoking and, in India, as a beverage. It is a regular ingredient in witches'

potions and is poisonous. Today it is commercially grown for the production of the drugs atropine, hyoscyamine and scopolamine.

See also HEMP; PLANTS; POPPY. [D.Q.A., J.P.M.]

HERD

u̯rētos (or ***u̯reh$_1$tos*?**) 'flock, herd'. [*IEW* 1151 (**u̯rēto-*)]. ODan *wrath* 'herd of twelve swine', OE *wrǣþ* 'herd (of swine)', Goth *wriþus* (*recte *wrēþus*) 'herd', OInd *vrā́ta-* 'flock, swarm, troop (particularly the non-Brahminical section of society)'. The basic meaning here seems to be 'flock' or 'herd' as a derivative from the root **u̯er-* 'bind, array' (cf. OInd *vr̥ṇóti* 'cover, surround; ward off'). Compare also Gmc **warinā* in OE *wearn* 'troop, crowd' and similar Celtic forms, e.g., OIr *foirenn* 'indefinite number of persons, band, troop', Wels *gwerin* 'host'. Though **u̯rētos* is not widely attested, the geographical distribution of those attestations suggests PIE status.

kerdheh$_a$- 'herd, series'. [*IEW* 579 (**k̑erdho-*); Wat 30 (**kerdh-*); Buck 3.18]. ON *hjǫrð* 'herd', *hirðir* 'herdsman', OE *heord* 'herd' (> NE *herd*), *hierde* 'herdsman', OHG *herta* 'herd', *hirti* 'herdsman', Goth *haírda* 'herd', *haírdeis* 'herdsman', OPrus *kērdan* 'time', Lith *(s)ker̃džius* 'herdsman', OCS *črěda* 'herd, series'. A word of the northwest of the IE world. Related more distantly are MWels *corδ* 'troop, crowd, family', Grk *κόρθυς* 'heap, sheaf'. Though sometimes put here, Av *sarəδana-* 'avenger', OInd *śárdhā-* 'might, strength' (later also 'herd') are semantically (and phonologically, **k̑-* rather than **k-*) distant.

See also HERDSMAN. [D.Q.A.]

HERDSMAN

u̯éstōr 'herdsman'. [*IEW* 1171 (**u̯es-*); GI 601 (**wes-t^{h}er-*); Buck 3.18]. Hit *^{LU}westara-* 'herdsman', Av *vāstar-* 'herdsman'. From **u̯es-* 'graze'. Though not widely attested, the distribution suggests great antiquity in IE.

g^{w}ou-k^{w}olos 'cowherd'. [*IEW* 483 (**g^{u}ou-*); GI 601 (**-k^{ho}el-*); Buck 3.18; BK 346 (**k'^{w}uw-/*k'^{w}ow-*), 317 (**k^w[^{h}]ul-/*k^w[^{h}]ol-*)]. MIr *būachail* 'cowherd', Wels *bugail* 'shepherd', Myc *qo-u-ko-ro* 'cowherd', Grk *βουκόλος* 'cowherd'. At least a word of the west and center of the IE world. A compound of **g^{w}ou-* 'cow' and **k^{w}olo-* 'one who turns, moves' (from **k^{w}el-* 'turn, move around').

poh$_1$imén- 'herdsman'. [*IEW* 839 (**pōi-men-*); cf. GI 600 (**p^{h}aH-*); Buck 3.18]. Lith *piemuõ* 'herdsman', Grk *ποιμήν* 'herdsman'. A word of the IE center. From **poh$_1$(i)-* 'watch (after cattle)'.

See also COW; FEED; HERD; PROTECT. [D.Q.A.]

HERNIA

kéuh$_x$l̥ (gen. ***kuh$_x$lós***) 'hernia'. [*IEW* 536–537 (**k̑áu(ə)lā*)]. ON *haull* 'hernia', OE *hēala* 'hernia', OHG *hōla* 'hernia' (Germanic from an *o*-grade derivative **kouh$_x$l-o-*), Lith *kúlas* 'hernia', *kūla* 'thickening, swelling', OCS *kyla* 'hernia', Rus *kilá* 'hernia', Grk (Ionic) *κήλη* 'tumor', (Attic) *κᾱ́λη* 'hernia' (Grk < **kewalā-*), Oss *k'ullaw* 'hernia'. From **keuh$_x$-* 'be bent' (cf. **kúh$_x$lo-* 'back'). A widespread and remarkably specific medical term. At least late PIE in status.

See also MEDICINE. [D.Q.A.]

HERON

?*h$_1$orh$_x$deh$_a$- ~ *h$_1$r̥(o)h$_x$deh$_a$-* 'some form of water bird, heron?' [*IEW* 68 (**arōd-*)]. Lat *ardea* 'heron', ON *arta* 'teal', SC *róda* 'stork', Grk *ῥωδιός ~ ἐρωδιός* usually 'heron' but also confused with the 'stork'. Both geographical spread and uncertain semantics provide little support for a PIE 'heron'. Old Indic largely uses *kaṅká-* 'heron' though other names are used for particular species while Armenian employs a single term, *jknak'ał* literally 'fish gatherer' which is also the word for 'swan'. The NE *heron* is probably from an early onomatopoeic form derived from the much employed **ker-*. Whatever word is used for heron, the word was also used for the various water birds with longish necks who caught fish by darting their bill into the water.

See also BIRDS. [J.A.C.G.]

HIDE[1]

bhergh- 'keep, protect'. [*IEW* 145 (**bherĝh-*); Wat 8 (**bhergh-*); GI 366; Buck 12.27]. ON *bjarga* 'keep, preserve', OE *beorgan* 'keep, preserve', OHG *bergan* 'keep, preserve', Goth *baírgiþ* 'keeps', Lith *bir̃ginti* 'be parsimonious', OCS *brěšti* 'care for'. A northwest dialectal term.

gheuĝh- 'protect, hide'. [*IEW* 450 (**gheuĝh-*); GI 84 (**g^{h}eug̑^{h}-*); Buck 12.27] Lith *gū́žti* 'cover with something warm', Av *gaoz-* 'hide', OInd *gúhati* 'conceals, covers'. A word of the IE center and east unless one accepts ON *eld-gýgr* 'abyss (crater of a volcano)' (< *'something hidden').

k̑eudh- 'hide'. [*IEW* 952 (**(s)keudh-*); Wat 60 (**(s)keu-*); Buck 12.27]. OE *hȳdan* (< Proto-Gmc **hūdjana-* with a new lengthened grade) 'hide' (> NE *hide*), Grk *κεύθω ~ κευθάνω* 'hide' (tr.), Arm *suzanem* 'submerge, hide'. A form showing metathesis, namely **dheuk̑-*, appears in OE *dēog* 'he concealed himself', *dēagol* 'secret, hidden, mysterious', OHG *tougan* 'hidden', *tougali* 'secret', TochA *tpuk-* (< **u̯i-dheuk̑-*) 'be hidden', TochB *tuk-* 'be hidden'. The agreement of Germanic and Tocharian in both metathesis and probably the prior existence of a present **dhóuk̑ei* is very significant and clearly supports antiquity in IE.

See also COVER. [D.Q.A.]

HIDE[2]

pélṇ- 'animal skin, hide'. [*IEW* 803 (**pel-no-*), 985–986 (**(s)p(h)el-*); Wat 48 (**pel-*); GI 227–228 (**p^{h}el-H-*); Buck 4.12; BK 60 (**p[^{h}]al-/*p[^{h}]əl-*)]. Lat *pellis* (< *pelni-*) '(animal) skin, hide', ON *fjall* 'skin', OE *fell* 'animal skin, hide, pelt' (> NE *fell*), OHG *fel* 'animal skin, hide, pelt' (Gmc < **pelno-*), OPrus *pleynis* 'meninges', Lith *plėnė̃* 'film (on milk), scab', Latv *plēne* 'membrane', Rus *plená* 'pelt' (Baltic and Slavic derivatives with new full-grade), Grk *ἐρυσί-πελας* (< **pel-n̥-s-* or perhaps rebuilt from < **-pelar*) 'red inflammation of

the skin', πελλοράφης 'sewing skins together'. Cf. OE *filmen* 'film, membrane; foreskin' (> NE *film*), Grk πέλμα 'sole of the foot', or Lith *plėvė̃* 'membrane, scab', Rus *plevá* 'membrane', Grk ἐπίπλο(ϝ)ος 'omentum'. More distantly yet we have Lat *spolium* '(animal) skin, hide', Grk σπόλια 'fine wool plucked from the legs of sheep'. From **(s)pel-* 'tear off', though the underlying verb is nowhere attested as such. Widespread, though not universal, in late PIE.

***h$_a$eĝínom** 'hide'. [*IEW* 7 (**āĝ-*); GI 501; Buck 4.12]. OCS *(j)azno* 'hide, leather', OInd *ajínam* 'hide'. Formally very similar but with a different, and more original, meaning is Lith *ožíena* 'goat flesh'. A derivative of **h$_a$eĝós* 'goat'. A word of the east and center of the IE world.

***letrom** 'leather'. [*IEW* 681 (**letro-*); Wat 36 (**letro-*)]. OIr *lethar* 'leather', Wels *lledr* 'leather', ON *leðr* 'leather', OE *leðer* 'leather' (> NE *leather*), OHG *leder* 'leather'. A dialect innovation of the far northwest of the IE world. It has been suggested that the Germanic words for leather should be explained as a Celtic loan word, i.e., **pél-tro* > (with metathesis) **plé-tro-* > Gmc **leþra-*. This would ultimately derive from **pel-* 'cover' but the metathesis required here is not otherwise attested.

?*nák(es)- '± pelt, hide'. [*IEW* 754 (**nak-*)]. OE *næsc* (< **næks*) 'dressed fawn-skin', OPrus *nognan* (< **noknan*) 'leather', Grk νάκος (stem *nak-es-*) ~ νάκη 'pelt, fleece, hide of deer or goat', (Hesychius) νακύριον 'skin'. Perhaps a word of late, dialectal IE; perhaps a culture-word or trade-word from some source.

See also ANATOMY; GOAT; SKIN. [D.Q.A.]

HIGH

***bhr̥ĝhús** ~ ***bhr̥ĝhént-** 'high'. [*IEW* 140–141 (**bhereĝh-*); Wat 8 (**bhergh-*); GI 576–577 (**b^h(e)rĝ^h-*); Buck 12.31; BK 19 (**bur-g^y-/*bor-g^y-*)]. From **bhr̥ĝhús*: Arm *barjr* 'high', Hit *parku-* 'high', Luv *parray(a)-* 'high' in the collocation *parrayanza* 'high mountains', TochA *pärkär* 'long', TochB *pärkare* 'long' (Tocharian with regular replacement of *u*-stem by *ro-* stem; note that the Tocharian meaning results from a horizontal perspective as opposed to the original vertical one; the same semantic development can also be found in certain Iranian reflexes, e.g., Khot *bulysa-* 'long', Sogd *βrz-* 'long'); from **bhr̥ĝhént-*: OIr *Brigit* (feminine proper name), ON *Borgundarholmr* 'Bornholm' (an island that rises high from the sea), OHG *Burgunt* (feminine proper name), Av *bərəzant-* 'high', OInd *br̥hánt-* (fem. *br̥hatī́*) 'great, high'. Cf. OLat *forctus* 'strong', Lat *for(c)tis* 'strong'. PIE **bhérĝhs* (gen. **bhr̥ĝhós*) 'height': MIr *brī* (acc. *brig*) (< **bhr̥ĝh-*) 'hill', ON *bjarg* ~ *berg* 'mountain, rock', *borg* 'height, wall, castle, city', OE *beorg* 'hill' (> NE *barrow*), *burg* ~ *burh* 'fortified place, castle, city' (> NE *borough*), OHG *berg* 'mountain', *burg* 'fort', Goth *baírgahei* 'mountainous area', *baúrgs* 'tower, city', Av *barš* (gen. *bərəzō*) 'height'. PIE status assured. Germanic derivatives indicate both natural high places such as hills or mountains as well as fortified heights.

***u̯órh$_x$dhus** (gen. ***u̯r̥h$_x$dhu̯ós**) 'upright, high'. [*IEW* 339 (**er(ə)d-*), 1167 (**u̯erdh-*); Wat 17 (**erəd-*); BK 500 (**war-/*wər-*)]. Grk (ϝ)ορθός 'upright, standing; straight; just', possibly Av *ərədva-* 'high, erect' if by dissimilatory loss (i.e., **u̯. . . u̯* > **ø . . . *u̯*) from **vərədva-*, OInd *ūrdhvá-* 'upright, erected, high', TochA *orto* '(from) above'. A word of the PIE southeast.

***h$_2$erdus** 'high, lofty'. [cf. *IEW* 339; Puhvel 3:203]. OIr *ard* 'high', Lat *arduus* 'steep, lofty; difficult', ON *ǫrðugr* 'steep', OCS *rastǫ* 'grow', Rus *rost* 'height', Hit *harduppi-* ± high', possibly Av *ərəδva-* 'upright' (if it doesn't belong above), Roshani *wūrδ* 'irrigation canal built on a stone causeway', *arδān* 'embankment between irrigation canal and field' (< Proto-Iran **arda-* and **ardanā-* respectively). The geographical distribution would appear to guarantee IE status.

See also FENCE; FORT; HIGH-ONE; HILL. [A.D.V., D.Q.A.]

HIGH-ONE

***bhr̥ĝhn̥tih$_a$-** 'high one'. [*IEW* 140–141 (**bhereĝh-*); Wat 8 (**bhergh-*); GI 576 (**bherĝh-*); BK 19 (**bur-g^y-/*bor-g^y-*)]. OIr *Brigit* (Celtic goddess), OBrit *Brigantia* (Celtic goddess), OHG *Burgunt* ~ *Purgunt* (woman's name), OInd *br̥hatī́-* 'high, lofty'. The derivation is clearly from **bherĝh-* 'high; hill, mountain' and the OBrit *Brigantia* is cognate with the Old Indic adjectival form which may occur as a woman's name. The Celtic goddess is attested in both Britain and Ireland (cf. also the British and early Irish tribal name *Brigantes* of whom *Brigantia* would have been the titular deity). In the Roman interpretation of Celtic deities, *Brigantia* is equated with Minerva and hence is seen as a patron of the crafts, especially poetic or those pertaining to foretelling the future, while the Irish sources also associate her with crop fertility. Although recorded in pagan contexts in early Irish literature, characteristics of the pagan *Brigit* are also recovered after her christianization into St Brigit, a sixth-century Leinster saint, whose sacred fire at Kildare suggests other rituals pertaining to the goddess. St Brigit was also a patron of agricultural fertility and her feast day fell on the Irish festival of Imbolc, the summer solstice. Although lexically cognate with the Old Indic adjectival form, there is no corresponding body of myth concerning an Indic *br̥hatī́-* on which to sustain a mythological comparison.

See also GODDESSES; HIGH; HILL. [D.Q.A., J.P.M.]

HILL

***bherĝh-** ~ ***bhr̥ĝh-** 'high; hill, mountain'. [*IEW* 140–141 (**bhereĝh-*); Wat 8 (**bhergh-*); GI 576–577 (**b^h(e)rĝ^h-*); Buck 1.22; BK 19 (**bur-g^y-/*bor-g^y-*)]. MIr *brī* (gen. *brega*) (< **bhr̥ĝh-*) 'hill', Wels *bre* 'hill', Gaul *-briga* (**bhr̥ĝh-ā*) 'hill', ON *bjarg* ~ *berg* 'mountain', OE *beorg* 'mountain', OHG *berg* 'mountain', Goth *baírgahei* (< **berga-*) 'mountainous region', OCS *brěgŭ* 'riverbank', Rus *béreg* 'riverbank' (Slavic with problematic *-g*), Arm *erkna-berj* 'sky-high', Av *bərəz-* (nom. *barš* < **bh(e)rĝh-*) 'high; hill, mountain', Oss *bærzond* 'high, mountain'. The PIE word for 'high', 'hill' or 'mountain'.

***kolh$_x$-ōn** ~ ***kl̥h$_x$-n-ós** 'hill'. [*IEW* 544 (**kel-*); Wat 28 (**kel-*); GI 577 (**k^{h}el-*); Buck 1.22]. Lat *collis* (with early loss of laryngeal) 'hill', OE *hyll* (< **huln-i-* < **kl̥h$_x$ni-*) 'hill', MDutch *hil(le)*, *hulle* 'hill' (ON *holmr*, *holmi* 'island', OE *holm* 'wave, sea, island', OS *holm* 'hill'), Lith *kálnas* 'mountain', *kalvà* 'hill', Latv *kal̃ns* 'mountain', *kal̃va* 'hill, river island', Grk *κολώνη*, *κολωνός* 'hill'. Uncertain is ON *hallr*, OE *heall* (> NE *hall*), Goth *hallus* (< **kolh$_x$n-u-*) 'rock'. Lat *columen* 'top' is from **kelamen* < **kelh$_x$-mn̥* (with syncope *culmen*). Very doubtful is Hit *kalmara-* 'mountain'. From **kelh$_x$-* 'project, tower up'. With Baltic, Germanic and Greek from one paradigm, this is certainly the PIE word for 'hill'.

***g^{w}orh$_x$-** ~ ***g^{w}r̥h$_x$-** 'mountain; mountain forest'. [*IEW* 477–478 (**g^{u}er-*); Wat 25 (**g^{w}erə-*); GI 574 (**Hk^{ho}r-i-*); Buck 1.22; BK 363 (**q^{w}ur-/*q^{w}or-*)]. OPrus *garian* (< **g^{w}orh$_x$-*) 'tree', Lith *girià* (fem. *gìrė*) (< **g^{w}r̥h$_x$-*) 'forest', Latv *dzir̦a* ~ *dzirē* 'forest', OCS *gora* 'mountain', Rus *gorá* 'mountain', Alb *gur* (< **g^{w}r̥h$_x$-*) 'rock, stone', Av *gairi-* 'mountain', OInd *girí-* 'mountain' (Indo-Iran **g^{w}r̥h$_x$-i-?*). PIE had a root noun, probably **g^{w}órh$_x$-s* (gen. **g^{w}r̥h$_x$-ós*). Perhaps the Indo-Iran *i*-stem originated in the nom. **gāris* (< **g^{w}orh$_x$s*). Grk *βορέας* 'northwind' is uncertain here as well as Grk (Hesychius) *δεῖρος* 'hill' which is secondarily derived from a compound. The semantic shift to 'forest' in Baltic is not uncommon as forests tend to be associated with mountainous regions and parallel developments have been observed in other languages and language families.

?*men- 'mountain'. [*IEW* 726 (**mn̥-t-*); Wat 41 (**men-*); GI 574 (**m(e)n-t^h-*); Buck 1.22; BK 533 (**mun-/*mon-*)]. Wels *mynydd* (< **monio̯-*) 'mountain', Lat *mōns* (gen. *montis*) (< **mon-ti-*) 'mountain', Av *mati* (< **mn̥-ti*) '(mountain) height'. These are all probably independent derivatives from a word for 'neck' which itself derives from **men-* 'project, stick out'.

The existence of multiple words for mountains has been employed by GI to demonstrate that the earliest Indo-Europeans lived in a mountainous region (cf. also words for 'cloud', 'thunderstorm', etc.), specifically the highlands of the south Caucasus and Armenia. Such conclusions are ingenuous in the extreme as possession of a virtually universal conceptual category can hardly have any bearing on the specific location of a population and there is nowhere in Eurasia where one could set the Proto-Indo-Europeans where they could be expected to have never encountered a mountain or hill.

See also HIGH; HIGH-ONE; PEAK. [R.S.P.B.]

HIP *see* HAUNCH

HOCK

***kenk-** '± hock, back of knee'. [*IEW* 566 (**kenk-*); Wat 29 (**kenk-*)]. ON *hæll* 'heel', OE *hēla* 'heel' (> NE *heel*) (< Gmc **hanhila-*), ON *hā-mōt* 'ankle', OE *hōh* 'hock, heel' (< Gmc **hanha-*), Lith *kenklě* 'hock, back of knee', *kìnka* (< **kn̥keh$_a$-*) 'hock, back of knee', Latv *cinksla* 'nerve behind the knee', OInd *kaṅkāla-* (as if < **konkolo-*; but attested only late and sparingly) 'bone, skeleton'. The original PIE word (a root noun?) has not survived. Rather we find several independent derivatives. If the Old Indic word belongs here, we have evidence for at least a late, but general PIE word. If it does not, then we have evidence for a "westernism" in late PIE.

See also ANATOMY; FOOT; HEEL; LEG. [D.Q.A.]

HOE *see* PLOW

HOLD

***h$_2$erk-** 'hold back (so as to prevent someone from doing something), contain'. [*IEW* 65–66 (**areq-*); Wat 3 (**arek-*)]. Lat *arceō* 'shut in; keep at a distance, prevent', *porceō* (< **po-* + **arceō*) 'hold off', *arx* 'stronghold, fortress', *arca* 'chest, container', Grk *ἀρκέω* 'ward off, defend; assist; achieve; suffice' (denominative to *ἄρκος* 'defence'), Arm *argelum* 'hinder, restrain, hold back' (denominative to *argel* 'obstacle'), Hit *hark-* 'hold, have', *pe hark-* 'bring along, tender, deliver', possibly TochB *ārk-* 'be obliged to' (if, like NE *have to* [= 'must']). To these may be added Lith *rakìnti* 'lock with a key' although the latter is more probably related to the root seen in Lith *ràkti* 'to poke with a sharp object' (or *rakìnti* may be an unexpected new full-grade, influenced by *ràkti*). OIr *accrann* 'shoe, clothing' (< *'that which holds the foot') has also been set here but this connection is extremely dubious. Nevertheless, the distribution of the other cognate sets seems to secure this word to PIE.

***dher-** 'be immobile; support, hold up'. [*IEW* 252–255 (**dher-*); Wat 14 (**dher-*); Buck 11.15; BK 143 (**d^{y}ar-/*d^{y}ər-*)]. Lat *firmus* (< **dher-mo-*) 'solid, firm', OE *darian* 'lie motionless, lurk', Lith *derė́ti* 'be useful, serviceable', Grk (aor. inf.) *θρήσασθαι* 'seat oneself', Arm *dadarem* 'become quiet, stop', Av *dārayat* 'holds fast', OInd (caus.) *dhārā́yati* 'holds, preserves'. The Greek form appears to be based on **dher-h$_a$-*; the other forms show no signs of a laryngeal. Semantically, Old English, Greek and Armenian all point to a quality of immobility; such a meaning may have then developed into 'dependability', seen in the Latin and Lithuanian forms.

***h$_a$eik̑-** 'possess'. [*IEW* 298–299 (**ēik-*); Wat 16 (**ēik-*); Buck 11.22]. ON *eiga* 'possess', OE *āgan* 'possess' (cf. NE *own*), OHG *eigan* 'possess', Goth *aih* 'have', Av *ise* 'is lord over', OInd *īśe* 'owns, possesses', TochB *aik-* 'know'. The distribution and comparability of the Germanic and Old Indic forms suggests PIE status; the Old Indic must be based on a reduplicated perfect of the root **iś-*. The Tocharian form is semantically somewhat distant unless the meaning 'know' developed from 'have power over', a semantic field suggested in the Avestan form.

***skabh-** 'hold up'. [*IEW* 916 (**skabh-*); GI 101]. Lat *scamnum* (< **scabnum*) 'stool, bench', Av *upa-skambəm* 'support, prop', Pashto *skām* 'tent pole', Khot *ṣkam-* 'make, form' (< *'prop up'), OInd *skabhnā́ti* 'supports, fixes'. Distribution suggests considerable IE antiquity.

***i̯em-** 'hold'. [cf. *IEW* 505 (**i̯em-*)]. Av *yam-* 'hold', OInd

yam- 'hold, sustain, offer, grant', TochA *yom-* 'achieve, obtain; reach', TochB *yäm-* 'achieve, obtain; reach' (< *'come to hold' or the like), *yām-* 'do, commit, make, effect' (< **i̯ōm-* originally an iterative-intensive of 'achieve, obtain'). At least a word of the east of the IE world.

See also BIND; WAGON. [M.N., D.Q.A.]

HOLLOW *see* CAVITY

HONEY

***mélit** (gen. ***mlitós**) 'honey'. [*IEW* 723–724 (**melit-*); Wat 41 (**melit-*); GI 517 (**mel-i-t*^{h}*-*); Buck 5.84; BK 535 (**mal-/*məl-*)]. OIr *mil* 'honey', Wels *mêl* 'honey', Lat *mel* 'honey', OE *mildēaw* 'mildew' (< *'sweet sap') (> NE *mildew*), *milisc* 'honey-sweet', Goth *miliþ* 'honey', Alb *bletë* (< **melítih*$_a$) 'honey-bee', Grk *μέλι* 'honey', *μέλισσα* (< *melítih*$_a$) 'honey-bee', Arm *mełr* 'honey', *mełui* (< **melui̯o-*) 'bee', Hit *militt-* (perhaps intended for **malit*) 'honey', Luv *mallit-* 'honey', Iranian *μελίτιον* 'a kind of Scythian drink'. The distribution indicates PIE status. The clearest and fullest of the attestations in the six stocks where it is found are in Greek. Here, a neuter noun for the substance (*μέλι*), a derivative noun *μέλισσα* (< *melítih*$_a$) 'honey-bee', and a zero-grade verb *βλίττω* (< **mlit-i̯e/o-*) 'rob a hive', i.e., 'gather honey', preserve evidence of an ablauting athematic stem. Moreover, the same neuter noun is preserved in Germanic and Anatolian. Lat *mel* (gen. *mellis*) probably represents an early Italic syncopation of the same form, i.e., < **melid* while OIr *mil* (gen. *melo*) is an *i*-stem, analogically refashioned after the *u*-stem 'mead'. Although sometimes claimed to be a western innovation, its eastern appearance in Armenian and Iranian and especially the rare, ablauting athematic neuter root assure this word of PIE antiquity.

***médhu** 'mead'. [*IEW* 707 (**médhu*); Wat 39 (**medhu-*); GI 517 (**med*^{h}*u-*); Buck 5.84; BK 543 (**mad*^{w}*-/*məd*^{w}*-*)]. OIr *mid* 'mead', Wels *medd* 'mead' (< Proto-Celtic *médu*) and OIr *medb* 'intoxicated', Wels *meddw* 'intoxicated' (< Proto-Celtic **medhu̯o-*), ON *mjǫðr* 'mead', OE *meodo* 'mead' (> NE *mead*), OHG *metu* 'mead', OPrus *meddo* 'honey', Lith *medùs* 'honey', Latv *medus* 'honey, mead', OCS *medŭ* 'honey, wine', Grk *μέθυ* 'wine', Av *maδu-* 'berry wine', Oss *myd* 'honey', Sogd *mδw* 'wine', OInd *mádhu* 'honey, wine', TochB *mit* 'honey'. Gothic may be assumed here as well from Byzantine glossary notices of *médo* and Lith *mìdus* 'mead', a loanword from Germanic. Tocharian offers a related word, *mot* 'alcoholic beverage' (= Buddhist Hybrid Sanskrit *surā*) which probably reflects a vr̥ddhied **mēdhu̯om* or the like although some regard this (with some phonological difficulties) as a borrowing from an Iranian *maδu*. Cf. also TochB *kuñi-mot* 'grape-alcohol'. Although **médhu* has been glossed as 'honey', the sense of 'mead' is recoverable from six stocks, three of which, Celtic, Germanic and Baltic, preserve the original meaning. In three other more centrally located stocks (Baltic, Slavic, Indic) and Tocharian the innovation of synecdoche, the process of naming an ingredient from its product, has caused the word to mean 'honey'. In three stocks (late Slavic, Greek, and Indo-Iranian) the term has come to mean another type of alcoholic beverage by a common semantic association. In addition, Celtic use of the thematic adjective to mean 'intoxicated' points to an original intoxicant rather than a sweetener. The original meaning 'mead' is also clear from the contrast with **melit* 'honey'.

***kn̥h**$_a$**ónks** (gen. ***kn̥h**$_a$**n̥kós**) 'honey-colored, golden'. [*IEW* 564 (**k*$_e$*nəkó-*); Wat 29 (**kenəko-*); Buck 5.84; BK 251 (**k[*^{h}*]un*^{y}*-/*k[*^{h}*]on*^{y}*-*)]. Lat (pl.) *canicae* 'bran', OPrus *cucan* (a mishearing or miswriting for **cuncan*) 'brown', Grk *κνηκός* (Doric *κνᾱκός*) 'pale yellow', *κνῆκος* 'safflower [= *Carthamus tinctorius*]', OInd *kánaka-* (< **kónh*$_a$*n̥ko-*) 'gold', *kāñcana-* 'gold'. For all of these the immediate ancestor is **kn̥h*$_a$*kós* with dissimilatory loss of the second **-n-*. From **kn̥h*$_a$*onkós*: ON *hunang* 'honey', OE *hunig* 'honey' (> NE *honey*), OHG *honag* ~ *honang* 'honey' with Old English and Old High German [in part] showing dissimilatory loss of the second **-n-*), TochB *kroṅkśe* 'bee' (either < **kn̥h*$_a$*onkōn* which is morphologically expected, i.e., '(s)he of the honey', though phonologically a little difficult, or **kn̥h*$_a$*onkuken-* which is phonologically regular and might be a diminutive, i.e., 'little one of the honey' or 'little golden one'—in any case with dissimilation of **-n...n-* to **-r...n-*). From **kónh*$_a$*n̥kos* with a different full-grade is OInd *kánaka-* 'gold'. A derivative of **kóh*$_a$*r̥* 'wax, honey-comb', built on the *n*-stem derivative **kh̥*$_a$*n-n-* with metathesis to **kn̥h*$_a$*-n-*.

See also BEE; FERMENT; SACRED DRINK; WAX.
[M.E.H., D.Q.A.]

HONOR

***dek̂es-** 'honor'. [*IEW* 189–190 (**deik̂-*); Wat 10–11 (**dek-*); GI 110 (**t'ek̂*^{h}*-*); BK 131 (**t'ak[*^{h}*]-/*t'ək[*^{h}*]-*)]. OIr *dech* 'best', Lat *decus* 'grace, dignity, honor', *decet* 'it is fitting', *dignus* 'worthy', *doceō* 'make clear, instruct, teach' (< *'let someone accept something'), Grk *δέκομαι* ~ *δέχομαι* 'take, accept; receive well or graciously', *δεικνύμενος* 'paying homage', Arm *tasanem* (aorist *tesi*) 'see', Av *dasəma-* 'deference, respect, veneration', *dasa-* 'goods, possessions', *dasaθavant-* 'rich', Khot *dāś-* (< **dās-ya-*) 'receive, get (possession), receive with honor', *dāṣṭa-* 'rich in, happy with', OInd *daśasyáti* 'serves, obliges, favors', *dāśnóti* 'serves, obliges, favors'. The distribution assures PIE antiquity for this word. Various derivatives mean 'right' (as the favorable side), thus **dek̂s-(i)-nos* in Lith *dẽšinas* 'right', OCS *desnŭ* 'right', Av *dašina-* 'right, dexterous; southern' (given an orientation to the rising sun, the south is to one's right), OInd *dákṣiṇa-* 'right, dexterous; southern'; **dek̂s-(i)-u̯os* in Gaul *Dexsiva dea* '± favorable goddess', Goth *taíhswa* 'right', Myc *de-ki-si-wo* 'right'; **dek̂s-(i)-teros* in Lat *dexter* 'right', Alb *djathtë* 'right', Grk *δεξιτερός* 'right'; **dek̂sos* in OIr *dess* 'right; south'. The semantic development of 'favorable' > 'right' must be at least of late PIE age. From **dek̂-* 'take, accept'.

See also COSMOLOGY; DIRECTION; RIGHT; SACRIFICE; WORSHIP.
[E.C.P., D.Q.A.]

HOOF

k̂oph$_2$ós 'hoof'. [*IEW* 530 (**kăpho-*); Wat 27 (**kap(h)o-*); GI 28 (**Kop^{h}o-*)]. ON *hófr* 'hoof', OE *hōf* 'hoof' (> NE *hoof*), OHG *huof* 'hoof' (Germanic with lengthened grade), Rus *kopýto* 'hoof' (with a centum development of **k̂-*, perhaps influenced by some more western IE language), Av *safa-* 'horse's hoof', OInd *śaphá-* 'hoof, claw'. Attestations are sufficiently widespread geographically to assure PIE status.

See also ANATOMY; FOOT; HORSE. [D.Q.A.]

HOOK

ko(n)gos 'hook'. [*IEW* 537–538 (**keg-*); Wat 27 (**keg-*); GI 714; Buck 12.75]. MIr *alchaing* 'weapon rack', ON *haki* 'hook', OE *hōc* 'hook' (> NE *hook*), *haca* 'bolt, lock', OHG *hāko* 'hook', ?Lith *kéngė* 'hook' (borrowing < MLG *henge* 'hook for hanging something'?), Rus *kógotĭ* 'claw', Hit *kagas* 'tooth'. Widespread and old in IE. GI suggest that it may be borrowed from Sumerian *gag* 'peg'.

kleh$_a$u̯is 'bolt, bar; (wooden) hook'. [*IEW* 604 (**klēu-*); GI 771 (**k^{h}laHw-*)]. Lat *clāvis* 'key, bolt', Grk κλείς (Homeric κληΐς) 'bar, bolt; catch or hook passed through the door from the outside to catch the strap attached to the bar on the inside; key; hook or tongue of a clasp', κλείω (< **kleh$_a$u̯i̯e/o-*) 'close'. Compare also OIr *clō* 'nail', MWels *clo* 'bolt', Lat *clāvus* 'nail, spike', *clāva* (< **kleh$_a$u̯o/eh$_a$-*) 'knotty branch, rough stick, club', Lat *claudō* 'close'. Also related in some way would be OCS *kljucĭ* 'hook, key'. The exact agreement of Latin and Greek has sometimes been attributed to borrowing (from Greek to Latin) but the existence of related words in Latin (and Celtic) makes the hypothesis of borrowing unnecessary. Admittedly the notion of 'key' in anything approaching its modern sense must clearly be an independent development in both languages from the more original notion of 'bar, bolt; hook'. GI suggest a relation with Semitic, e.g., Akkadian *kalû* 'restrain, detain', Hebrew *kālā'* 'lock' but the phonetic resemblance is not overly great.

h$_a$ónkos (gen. ***h$_a$énkos***) 'something bent, hook'. [*IEW* 45–46 (**anko-*); Wat 3 (**ank-*); GI 626 (**Hank^h-*); Buck 9.14, 12.75]. OIr *ēcath* 'fishhook', Wels *angad* 'grip', Lat *uncus* 'hook, barb', *ancus* 'one with a crooked arm', ON *angi* 'point', OE *anga* 'point', OHG *ango* 'fishhook', Lith *ánka* 'knot', OCS *ǫkotĭ* 'hook', Grk ὄγκος 'barb (of an arrow)', Av *aka-* (< **h$_a$n̥k-ó-*) 'hook', OInd *aṅká-* 'curve, hook' (in the dual: 'part of a chariot'). Widespread and old in IE. A root noun derived from **h$_a$enk-* 'bend' seen in OInd *áñcati* 'bends'. Related are Grk ἄγκος 'valley', OInd *áṅka-* 'curve, bend', TochA *añcäl* (< **h$_a$onk-el-o-*) 'bow'. The underlying referent would appear to be anything with a hook-like shape, including a barb. Fishhooks are known in Europe at least since the Mesolithic period where they have been found fashioned from the rib bones of red deer.

See also TOOL. [D.Q.A.]

HOOPOE

h$_1$epop ~ ***h$_1$opop*** 'hoopoe'. [*IEW* 325 (**epop* ~ **opop*); GI 459 (**e/op^{h}op^h-*)]. Lat *upupa* 'hoopoe', NLG *hupphupp* 'hoopoe', Lith *pupùtis* 'hoopoe', Latv *pupuķis* 'hoopoe', Pol *hupek* 'hoopoe', Grk ἔποψ 'hoopoe', Arm *popop* 'hoopoe', NPers *pūpū*. Though all the various forms are similar, it is likely that the word for 'hoopoe' is entirely onomatopoeic since those languages which show a sound shift do not exhibit it for this term. Further, in unrelated Georgian, we have *opopi* 'hoopoe' and in Turkic *hupup* 'hoopoe'. These terms are built on the hoopoe's cry: hoo-hoo-hoop, or, as Aristophanes had it: ἐποποῖ ποποποποποποποποῖ. The bird is considered, along with the stork, a devoted child who cares for his aged parents which is reflected in OInd *putra-putra-* 'hoopoe' but literally 'son-son' after its acknowledged love of progeny and parents. Where its name is not derived from its cry or paternal associations, it may be called a 'dung bird' from its feeding custom, e.g., French *coq puant*, NHG *stinkhahn*.

The hoopoe is notable for its dramatic crest and for its call. Although it is frequently included in myths and legends, references tend to be peripheral.

See also BIRDS. [J.A.C.G.]

HORN

The several PIE words for 'horn' are based on a root ***k̂er-*** 'horn'. [*IEW* 574–576 (**k̂er-*); Wat 29 (**ker-*); GI 404 (**k̂^{h}er-w/n-*); Buck 4.17; BK 200 (**ṭ̣ʔ[^{h}]ir-/*ṭ̣ʔ[^{h}]er*)]. The derivative ***k̂érh̥$_2$s***, as well as meaning 'horn', is the basis for several words for 'head'.

k̂r̥nom 'horn'. Gaul κάρνυξ 'trumpet', Galatian (Hesychius) κάρνον 'trumpet', Wels *carn* 'hoof', Lat *cornum* ~ *cornū* 'horn', ON *horn* 'horn', OE *horn* 'horn' (> NE *horn*), OHG *horn* 'horn', Goth *haúrn* 'horn', Latv *sirna* 'roedeer', ORus *sirna* 'roedeer' (Balto-Slavic < **k̂r̥neh$_a$-*), Grk κέρναι (pl.) 'vertebral processes' (with new full-grade), κραγγών 'shrimp' (< *'the horned-shaped' and a derivative of the **k̂r̥n-gó-* 'having a horn' that, nominalized by retracting the accent, is reflected in OInd *śŕ̥ṅga-* 'horn'), Luv *zarwani(ya)-* 'of horn', HierLuv *zurnid* 'horn' (with unexplained *-u-* rather than expected **-a-*), OInd *śŕ̥ṅga-* 'horn', *śarabhá-* '(a kind of) deer' (< **k̂erm̥bho-* with new full grade). Cf. also OHG *hrind* 'cow' (< **k̂rénteh$_a$-* 'the horned one' [as opposed to a horse]). Widespread and old in IE.

k̂érh̥$_2$(s) 'horn'. From **k̂érh̥$_2$* we have Myc *ke-ra* 'horn (material)', *ke-ra-jo* 'made of horn', Hit *karāwar* 'horn'; from **k̂érh̥$_2$s* we have: Grk κέρας 'horn', κεραός 'having horns', (Hesychius) κάρᾱ (< **k̂r̥h$_2$seh$_a$-*) 'cow; tame goat', TochB *karse* 'stag' (< **k̂r̥h$_2$só-* 'horned one'). Not so widespread but clearly old in IE. See also the next word.

k̂érh̥$_2$sr̥ 'horn'. The underlying noun appears nowhere but it has left its trace in numerous derivatives: Lat *crābrō* (< **k̂r̥h$_2$sro-on-*) 'hornet', NDutch *horzel* 'hornet', Lith *širšlỹs* 'hornet', *širšuõ* 'hornet', OCS *sirsenĭ* 'hornet' (of the 'hornet' words, all save Latin show some kind of dissimilation, including dissimilatory loss, of the sequence **r...r*), Myc *-ka-ra-o[r]* '-horned', TochA *kror* 'crescent (i.e., horn) of the moon', TochB *krorīya* 'horn' (Toch < **k̂r̥h$_2$sr-u(-i̯eh$_a$)-*).

Widespread and old in IE.

ḱóru 'horn'. Again the underlying noun appears nowhere but it has left its trace in numerous derivatives: Wels *carw* 'stag', Lat *cervus* 'stag', *cervīx* 'nape of the neck', ON *hjǫrtr* 'stag', OE *heorot* 'stag' (> NE *hart*), OHG *hiruz* 'stag' (Gmc < **ḱerudo-*), ON *hrūtr* (with new lengthened grade) 'ram', OPrus *sirwis* 'roebuck', *curwis* 'ox', Lith *kárvė* 'cow', Rus *koróva* 'cow' (it is noteworthy that these Balto-Slavic forms for cattle show a centum development of **ḱ-*, perhaps under the influence of some western variety of IE), Grk **κόρυδος** '(crested) lark', **κορυφή** 'crest (of mountain or horse)', **κορύπτω** 'butt with horns', **δίκροος** (< **dui-ḱrou-io-*) 'forked, cleft', Av *srv-* ~ *srvā-* 'horn; claw, talon', Ashkun *sō* (< Proto-Indo-Iranian **śarva-* = Lat *cervus*) 'mountain goat/markhor'. Widespread and old in IE.

ḱem- 'hornless'. [*IEW* 556 (**ḱem-*); Wat 29 (**kem-*)]. ON *hind* 'hind', OE *hind* 'hind' (> NE *hind*), OHG *hinta* 'hind', OPrus *camstian* 'sheep', *camnet* 'horse', Lith *šmùlas* 'hornless', *šmùlis* 'ox without a horn', *šmùlė* 'cow without a horn', *kumẽlė* 'mare', OCS *konĭ* 'horse', Rus *konĭ* 'horse', *kómonĭ* 'horse' (< **komnio-* and **komon-* respectively, meaning 'hornless one' [as opposed to cattle]), *komólyj* 'hornless', Grk **κεμάς** 'young deer', OInd *śáma-* 'hornless'. Old Prussian and Slavic presuppose a non-palatal **k*, rather than **ḱ*. Widespread and old in IE. A noteworthy phenomenon in several stocks, most clearly in Slavic, is the replacement of the original words for 'cow' and 'horse' by 'horned' and 'hornless' respectively.

Horn or antler was widely used throughout Eurasia in the manufacture of tools, e.g., harpoons, mattocks, and as a hafting mechanism for stone or metal tools. It was also employed as a musical instrument where horns fashioned from bronze begin to appear by the late Bronze Age, particularly in northwest Europe. These latter may have been modeled on earlier prototypes made from the horns of either the aurochs or the domestic cow. The horn was also widely employed as a drinking vessel.

The semantic range of PIE **ḱem-* 'hornless' in the various IE stocks is quite large and is employed to distinguish animals which would not naturally have horns, e.g., horses, from horned animals, and also the hornless varieties of otherwise horned animals. The latter begin to occur quite early. For example, hornless ewes are already present by 7000 BC in Iran and they also appear in Europe at an early date while hornless rams are not found until the Middle Ages.

See also Anatomy; Deer; Goat; Head; Sheep. [D.Q.A.]

Further Readings

Gołąb, Z. (1985) Slavic *komonĭ* and *kon'ĭ* 'equus': An attempt at etymology against the background of the history of domestication. *JIES* 13, 415–443.

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HORNBEAM

(s)greh₂b(h)- 'hornbeam (*Carpinus betula*)'. [*IEW* 404 (**grēb(h)o-s*); GI 535–537 (**(s)k'rōbʰo-*); Fried 99–106]. Umb *Grabovius* 'oak-god', OPrus *wosi-grabis* 'spindle-tree', Lith *skrõblas* 'hornbeam', Latv *skābarde* 'hornbeam', Rus *grab* 'hornbeam', Pol *grab* 'hornbeam', SC *grȁb* 'hornbeam', Alb *shkozë* 'hornbeam, oak', NGrk **γραβούνα** 'hornbeam (loanword?)'. Cf. Lat *carpīnus* 'hornbeam' with unexpected voiceless consonants and metathesis of vowel and *-r-*, perhaps the result of some sort of taboo deformation or the result of borrowing from another IE group where PIE voiced stops had become voiceless.

The hornbeam is attested in Baltic, Albanian and above all in several of each of the three substocks of Slavic. In Greek, like Albanian, IE **(s)greh₂b(h)-* 'hornbeam (white beech)' shifted to 'oak' (just as the IE 'beech' term shifted to 'oak'). Italic, here Umbrian, also indicates or at least strongly suggests a shift to 'oak'; the name and derived epithets for an 'oak god' occur on one Iguvine tablet in association with Jūpiter. The shift to 'oak' in the three southern dialects, Albanian, Greek and Latin, is not well explained as the distribution of the pollen of *Carpinus betulus* during the period *c* 4000–2000 BC was largely concentrated in the region of these languages, i.e., all of peninsular Italy, the Balkans and Greece, as well as in eastern Europe, the presumed homeland of the Balts and Slavs. The shift to 'oak' and/or 'beech' in the three southern stocks may have been motivated metonymically—the hornbeam grows as understory to both trees—and metaphorically, in light of its gray bark and sensitivity to drought. The hornbeam term is phonologically problematic, involving an initial **g-* (or **k-* or **sk-*) and a final *p* or aspirated *bh*; such variation might reflect its use in ritual.

During the Neolithic and Bronze Age, the hornbeam was found from Italy and Greece, across east Central Europe and the Baltic to the Ukraine and the Caucasus and south into Anatolia. Sometimes rising to twenty meters, the hornbeam produces an excellent harvest of nutritious nuts every two years and its hard, elastic wood is ideal for weapons, armor and some tools.

See also Trees. [P.F.]

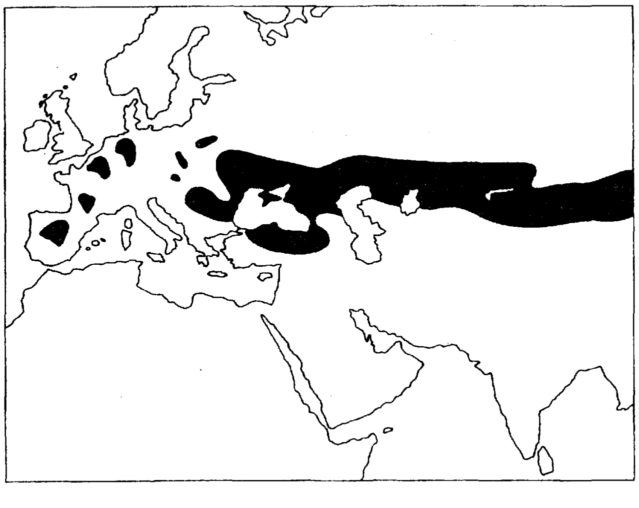
HORNET

ḱr̥h₂sro-(hₓ)on- 'hornet'. [*IEW* 576 (**ḱr̥s-en-*); GI 453 (**ḱʰr̥s-en-*); BK 200 (**ʒ̆[ʰ]ir-/*ʒ̆[ʰ]er*)]. Lat *crābrō* 'hornet', NDutch *horzel* 'hornet', OPrus *sirsilis* 'hornet', Lith *širšė* 'hornet', *širšlỹs* 'hornet', *širšuõ* 'hornet', Latv *sirsis* 'hornet', OCS *srĭsenĭ* 'hornet', Bulg *sturšel* 'hornet' (all save Latin show some kind of dissimilation, including dissimilatory loss, of the sequence **r...r*). Cf. OE *hyrnet(u)* ~ *hurnitu* 'hornet' (> NE *hornet*), OHG *hurnuz* 'hornet' (< Proto-Gmc **hurzni/a/ut-*). A derivative of **ḱerh₂s-* 'horn', either as *'having antennae' (antennae = horns) or, more probably, *'having a stinger' (stinger = horn).

See also Horn; Insects; Wasp. [D.Q.A.]

HORSE

h₁éḱuos 'horse (*Equus caballus*)'. [*IEW* 301 (**eḱuo-s*);



Horse a. The distribution of the horse in the fourth–third millennia BC. The horse may have been more widespread in northern and central Europe than the broken distribution indicates.

Wat 16 (*ekwo-); GI 463 (*ek^hwos); Buck 3.41]. OIr *ech* 'horse', Wels *ebol* 'colt', Gaul *epo-* 'horse', *equos* (name of a month), OLat *equos* 'horse', Lat *equus* 'horse', Venetic (acc.) *ekvon* 'horse', ON *jōr* 'horse', OE *eoh* 'horse', Goth *aíhva-tundi* 'brambles' (= 'horse-thorn'), OPrus *aswinan* 'horse-milk', Lith *ašvíenis* 'stallion', Myc *i-qo* 'horse', Grk ἵππος 'horse', Arm *ēš* 'horse', HierLuv *azu(wa)* 'horse', Lycian *esbe-* 'horse', Av *aspa-* 'horse', OPers *asa-* 'horse', Sogd *'sp* 'horse', Oss *jæfs* 'horse', OInd *áśva-* 'horse', TochA *yuk* 'horse', TochB *yakwe* 'horse'. Cf. the derivative *h_1eḱu̯ó-t- in Lat *eques* (gen. *equitis*) 'rider', Grk ἱππότης 'rider'. Practically universal (lacking only in Slavic and Albanian), it is surely old in IE. This word has been connected with the PIE word for 'swift' (cf. the formula in Grk ὠκέες ἵπποι 'swift horses', Av *āsu.aspa-* 'owning swift horses', OInd *áśvāḥ āśávaḥ* 'swift horses'). Thus *h_1éḱu̯os would have been originally 'the swift one' or the like. However, the word for 'swift' always shows *ōḱ-, suggesting an original *o*-coloring laryngeal, i.e., *h_1eh_3ḱ- or the like.

The Greek form for 'horse' has often been regarded as a loan word from an otherwise unattested IE language of the Mediterranean region since the rough breathing in ἵππος is unexplained, as also ι instead of the expected *ε, and the gemination of the labial stops (-ππ-, or, in some dialects, the velar stops, e.g., ἴκκος 'horse'). The expected Greek form is generally taken to be *επος; however, as the Mycenaean form *i-qo* (/ikk^{w}os/) can be explained as a distinctly Mycenaean development (e.g., *e > *i* in Mycenaean in the vicinity of a labial), there is no reason to look outside of Greece for the origins of the Greek term for 'horse'.

The Anatolian forms for 'horse' with sibilants, e.g., HierLuv *azu(wa)* 'horse', Lycian *esbe* 'horse' or the Indo-Aryan (Mitanni) forms have been sometimes seen as underlying the words for 'horse' found among a number of the non-IE languages of Anatolia and the Near East, e.g., Hurrian *ešši*, Akkadian *sisū*, Ugarit *ssw*, Abkhaz *ačy* and others. This is generally seen in the context of the spread of the horse and its name throughout the region by IE tribes.

***h_1éḱu̯eh$_a$-** 'mare'. [*IEW* 301 (*eḱu̯o-s); Buck 3.44]. Lat *equa* 'mare', Lith *ešvà* ~ *ašvà* 'mare', Av *aspā* 'mare', OInd *áśvā-* 'mare'. A regular feminine derivative, itself of PIE date, of the previous word.

***márkos** 'horse (*Equus caballus*)' and '?wild horse (*Equus przewalskii* or *gmelini*)'. [*IEW* 700 (*marko-); Wat 38 (*marko-); GI 472 (*mark^{h}o-); Buck 3.41]. OIr *marc* 'horse', Wels *march* 'horse', Gaul *Marco-* 'horse', ON *marr* 'horse', OE *mearh* 'horse', OHG *marah* 'horse'. In Germanic there is a derived feminine *markih$_a$- (cf. Buck 3.44) in ON *merr* 'mare', OE *miere* 'mare' (> NE *mare*), OHG *meriha* 'mare'. At least a word of the western region of the IE world. If the supposition that in animal names a derived feminine in *-eh$_a$- denotes a domestic animal and a derived feminine in *-ih$_a$- denotes a wild animal (cf. *u̯ḷk^{w}íh$_a$- 'she-wolf'), it may be the case that in the western IE dialects showing *márkos its meaning in those stocks was 'wild horse' and it was opposed to *h_1éḱu̯os 'domesticated horse'. Beyond the certain Celtic and Germanic cognates it has been suggested that this putative PIE *márkos is related to a series of words for 'horse' that extend eastward, in non-IE languages, all the way to the Yellow Sea. Thus we have Mongol *morin*, Chinese *mǎ*, Korean *mal*, Burmese *mraŋ*. Opinion is divided as to whether, if the PIE word belongs with the others, the PIE word is a borrowing from, say, pre-Mongol (which would also be the source of the Chinese word and that in turn the source of the Korean and Burmese) or the Mongol, Chinese, etc., words are ultimately borrowed from PIE. Under either borrowing scenario *márkos would have had to have been much more widespread in PIE than its Celtic and Germanic reflexes would suggest.

***ĝhéi̯os** 'horse (*Equus caballus*)'. [*IEW* 424 (*ĝhei-); GI 441; Buck 3.41]. Arm *ji* 'horse', OInd *háya-* 'horse'. A derivative of *ĝhei- 'impels, stimulates, drives'. An innovation of the center and east of the IE world.

??*mendi̯os 'horse'. [GI 474–475]. Romanian (< Dacian) *mînz* 'colt', Thracian Μεζηναι (name of horse-riding divinity), Illyrian *mandos* 'small horse', Messapic *Iuppiter Menzanas* (name of divinity to whom horses were sacrificed), Alb *mëz* 'foal'. Cf. Lat *mannus* 'small horse'.

Distribution of Wild Horses

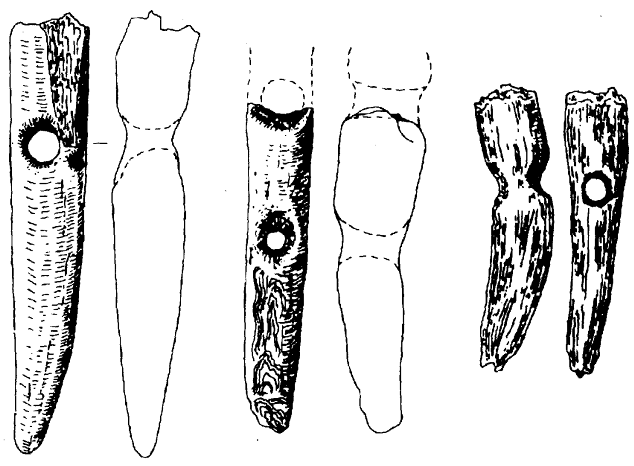
The horse (*Equus caballus*) was nearly ubiquitous in Eurasia during the Pleistocene and is commonly divided into two subspecies: the tarpan (*Equus ferus ferus* or *gmelini*) and the taki or Przewalski horse (*Equus ferus przewalskii*). The former was well known on the western steppe, particularly in the Ukraine, and because of its changing color during the winter, it has been identified with the 'white' horses that Herodotus describes north of the Black Sea. The tarpan was hunted to extinction in the eighteenth and nineteenth centuries, the last one dying in a zoo in 1918, although reconstituted

tarpans, where horses have been specially bred to reflect the physical characteristics of the wild tarpan, do exist. It should be noted that there are those who argue that the tarpan is not a true sub-species but rather the result of very early feral horses. The Przewalski horse, somewhat larger than the tarpan, dominated the more eastern steppe in Asia, especially Mongolia, but has been virtually hunted to extinction in the wild although they survive in the hundreds in zoos.

Although the horse was widely hunted in the Pleistocene, after the Ice Age it became much more restricted in its distribution, a fact that weighs considerably both in the study of its domestication and in discussions of the IE homeland. In general, Europe and western Asia can be divided into three main areas with regard to the distribution of the horse. In some regions, it appears to have been altogether absent or, at least, does not appear in the faunal records of early Neolithic sites. From west to east, these areas would include Ireland, peninsular Italy, Greece, western Anatolia, the Near East, and India. In all these regions the earliest horses appear to arrive from somewhere else, usually after 4000 BC (western Anatolia) or later (*c* 2500–2000 BC in Ireland, Italy, Greece, and India [claims of earlier horses in India and Baluchistan have never been fully substantiated]). Some of these regions, however, were not devoid of equids since the 'wild ass' (*Equus hydruntinus*) did exist from Iberia across southern Europe and on into Anatolia although it probably became extinct in most of these regions by *c* 3000 BC.

A second region is characterized by the occasional presence of horses, in all cases presumably wild and hunted, usually in numbers that suggest marginal exploitation, i.e., 3% or less of the animal remains. This region comprises Iberia, Britain, northern Europe (the horse was extensively hunted here in the Mesolithic), and Danubian Europe (of the over 5000 bones recovered from Linear Ware sites in central Germany, only seventeen belong to horse) eastwards to the western Ukraine (early Tripolye culture). Wild horse remains have been recovered from some early Neolithic sites of Anatolia but by the fourth millennium their remains appear so far to have been confined to northern Anatolia (they do not appear at Troy until the second millennium BC). Generally, the quantity of horse remains recovered from sites falls off as one moves from east to west.

The third region of horse exploitation is the steppe and forest steppe of the Ukraine, southern Russia and Kazakhstan where the horse flourished in large numbers after the Ice Age. They are found to be particularly abundant in the Sredny Stog and Yamna settlements and contemporary sites in the south Russian and Kazakh steppe. On some sites, such as Dereivka, they were the most numerous mammals found and although the Yamna site of Mikhaylovka had greater numbers of ovicaprids and cattle, there were still the remains of over 650 horses on this site. On some settlements, they constitute almost the entire faunal assemblage, e.g., Khutor Repin, and the site of Botai southeast of the Urals in northern Kazakhstan has yielded horse bones in the hundreds of thousands.



Horse b. Perforated objects of red deer antler (8 to 14 cm long) from the Sredny Stog culture that have been claimed by some to have served as cheek-pieces for the earliest domestic horses.

Domestication of the Horse

Distinguishing between wild horses and domesticated horses and the various stages in between is exceedingly difficult as horses did not undergo the degree of morphological change experienced by the other livestock upon domestication. One of the primary prehistoric sites of Europe relevant to the entire question of horse domestication is that of Dereivka, a settlement of the Sredny Stog culture in the Ukraine, which in the "Kurgan solution" to the IE homeland problem has often been portrayed as an almost archetypal settlement of the earliest Indo-Europeans. Initial comparisons of the skeletal remains of a stallion from Dereivka with that of the tarpan, Przewalski horse, and what are presumed to be early domesticated horses led to the conclusion that the Dereivka stallion more closely resembled the domestic than the wild horse but such a proposition has been disputed on the grounds that we have a very imperfect knowledge of the range of variability among wild horses (the comparative tarpan sample comprised only two specimens). Another approach to distinguishing wild from domestic horses is the age-slaughter pattern since this is expected to differ between horses that have been simply hunted against domesticated horse, especially when they have been bred for other uses such as riding or even for their meat. Again the results have been contradictory with some claiming that the horses from Dereivka reflected the pattern of horse-keeping among Mongolians while others have argued that it could be better explained by hunting though possibly assisted by horse-mounted hunters.

Other approaches to determining horse domestication are technological. At Dereivka and other sites of the Sredny Stog and Yamna cultures, perforated pieces of antler have been recovered that have been interpreted as cheek-pieces (or

psalia), devices for securing the bit in the horse's mouth. The presence of horse-bits presumes horse-riding and it has been argued that it would be impossible to secure horses alive in the wild or to control and herd them without also being able to ride them. But it has also been argued that the objects interpreted as cheek-pieces may not have served in that capacity. There is no unequivocal association of a pair of such devices, for example, with horse remains (although two were found at Dereivka) nor do we find such devices after these Copper Age cultures for at least a millennium or more when indisputable metal cheek pieces appear in the Bronze Age. Nevertheless, experiments have been conducted that have demonstrated such antler objects *could* have served as cheek-pieces although that need not have been their intended function.

One further line of evidence for the use of the bit has been suggested by the analysis of bit-wear on the horse's teeth since a ridden horse with a bit in its mouth may cast off the bit from the soft tissue where it will then ride against the horse's premolars and leave characteristic marks on the enamel. Such marks have been discovered on the stallion from Dereivka and other sites of the steppe region that suggest at least some of the horses were ridden although there is no evidence that all were ridden. The Dereivka stallion, upon which so much evidence for the earliest horse domestication rests, has been variously seen (by the excavators and others) to have been part of a cult deposition where the head and forelegs (a "head and hooves" offering) were associated with similar remains from two dogs, or, as others have suggested, a later horse skull was deposited among the remains of earlier kitchen debris. While there is a series of radiocarbon dates that indicates that Dereivka was occupied *c* 4200–3700 BC, a sample from the stallion's skull dated to *c* 2900 BC. This date offers little comfort to either side as it is too late for the Sredny Stog culture but too early to be associated with a later Bronze Age intrusion.

It is clear then that the precise date of the origin of horse-keeping and riding is still disputed. What is not at issue is the fact that in the southern Ukraine, south Russia and Kazakhstan there was intense and selective exploitation of the horse from at least *c* 4500 BC onwards. Whether it was based on selective breeding of horses, more generalized keeping, a combination of the two, or something far less structured remains problematic. So also does the assignment of the domestic horse to a series of late Neolithic or Copper Age cultures in northern and central Europe. It has been suggested that while horse remains are minimal on early Neolithic sites of the region, their numbers are such on some of the later Neolithic settlements to indicate that they may have been domesticated. The Altheim culture (*c* 3600 BC), Bernburg culture and some late sites of the TRB culture have been cited but the evidence has not been scrutinized in such a way to permit solid conclusions. The rise in horse remains on later Neolithic sites has also been attributed to climatic change that favored the expansion of wild horses at the time.

The current model of a steppe origin for horse domestication makes sense with respect to the abundance of the horse remains encountered in this region, the unequivocal development of horse-riding in this region in later prehistoric times, and the subsequent appearance of the horse in regions adjacent to the steppe region, e.g., the earliest domestic horses to the south appear first in the Caucasus and then eastern Anatolia while those in Central Asia appear to derive from the steppelands to the north. But analysis of horse remains from central European and north European sites of the later Neolithic and subsequent periods also suggests that there are marked differences between the steppe horses and those of other parts of Europe and one cannot speak of a replacement of the native European horses by steppe horses. In western Europe, for example, where the domestic horse appears by *c* 2500 BC in contexts of the Beaker culture, there is great variation in the size and presumably origin of horses from Ireland to Iberia. It is reasonable to suppose, therefore, that the spread of the domestic horse entailed not only the movement of the horses but, in some or many instances, merely the spread of the idea of horse domestication. Analysis of horse remains, for example, from Sweden suggests that the domestic horses of the Bronze Age here were derived directly from the native horses following the Ice Age and similar claims can be made for early domestic horses in central Europe. Although some have sought distant eastern links for **márkos* 'horse', which in Indo-European is confined to the northwest stocks (Celtic and Germanic), it is difficult to see how one can match the western distribution of the IE cognates with the eastern distribution of its putatively non-IE borrowings or loans. The only major east to west movement of horses, after their initial domestication, was in the Iron Age where we have steppe horses which were introduced into the Carpathian basin by the Scythians. These were subsequently brought to Austria and Italy by exchange. At a withers height of over 136 cm, they were larger than the native Celtic horses of the time (126 cm) and so it is difficult to see how an "eastern" name would have been introduced into western Europe and assigned to a different variety of native horse. It seems more likely that such an isogloss could be better explained as the name of the local wild horses of western Europe or the name applied to the native domesticates of this same region.

Exploitation of the Horse

Irrespective of where one finds remains of Neolithic horses, it is clear that the horse was exploited primarily for its meat, and on some sites it constituted the primary, sometimes virtually the exclusive, source of meat. Prohibitions against eating horse-flesh do not seem to appear until the Bronze Age. At some time over the period *c* 4500–2000 BC, the use of the horse as a means of transport and for the management of herds was also developed. It is often presumed that the small size of the steppe horses, generally about 136 cm at the withers, would have left them unsuited to pulling the type of

heavy carts or wagons with disc wheels that we find in the Copper Age and it would not be until the invention of the lighter spoked-wheeled chariot that the horse became an effective draft animal. Another limiting factor in so far as the employment of horses for draft was the harnessing mechanisms that we find employed across at least the later Europeans which appeared to be designed to suit the physique of an ox rather than that of a horse, and were, consequently, extremely inefficient. Other than the possible carrying or pulling of loads (cf. the travois of the American Indian), the primary role of the horse in transportation was presumably riding.

It has long been regarded impossible to reconstruct to PIE a word for 'ride a horse' as we generally encounter new formations, themselves built on the word for 'horse', in the various IE stocks, e.g., Gaul *marcosior* 'I would like to ride' from **márkos*, and a series of words rebuilt on **$h_1$ék̂u̯os* 'horse', e.g., Lat *equitāre* 'to ride', Grk *ἱππεύω* 'ride a horse', OInd *aśvāyati* 'rides a horse'. But Wolfgang Meid has suggested that **$h_1$ek̂u̯o-t-* 'rider', which is attested in Lat *eques* (gen. *equitis*) and Grk *ἱππότης*, may point to a word of some antiquity.

The linguistic evidence aside, the existence of horse-riding among the early Indo-Europeans has been challenged as a comparatively late phenomenon as opposed to the use of the horse in pulling the light, spoke-wheeled chariot, which was developed in the centuries before 2000 BC and which accompanies much of the earliest equestrian evidence for the Indo-Europeans, specifically the Mycenaeans, Hittites, (Indo-Aryan element in) Mitanni, Iranian and Indo-Aryan. Nevertheless, there are also clear instances of horse-riding as well and it is exceedingly difficult to imagine a system of horse domestication that did not first involve the riding of horses in order to control herds. Among the Hittites the horse is most closely associated with the god Pirwa who is both described and, in the form of statues or on seals, depicted as riding a horse. Indic tradition also offers early evidence for horse riding, e.g., in the *Ṛgveda* (1.162,17) a horse is goaded forward with whips and heels, certainly implying that it is ridden, and the horse's saddle is mentioned in *RV* 5.61,2-3. Riding is specifically attributed also to the Maruts, the youth-bands of early Indo-Aryan tradition. On the other hand, in descriptions of aristocratic warfare, it is invariably the horse-drawn war chariot that is employed, as can be seen in the epic literature of various IE stocks (e.g., the Ulster Cycle among the early Irish, the Homeric poems among the Greeks, the *Ṛgveda* and other works among the early Indians). It is also the impact of chariot driving that plays such an important role in the borrowed Indo-Aryan vocabulary found among the Mitanni of northern Syria and subsequently borrowed into Hittite.

The impact of horse-riding has been regarded as revolutionary since it provided a high-bulk means of transport and permitted high-speed movement from one territory to another. It has been suggested on the basis of evidence from American Indian ethnographies that the introduction of the horse-riding in Eurasia would have permitted communities to exploit territories up to five-times larger than were previously occupied and the area of social groups might increase ten-fold. With the introduction of the horse, populations occupying river systems of the steppe could now exploit the open grasslands and begin incipient pastoral nomadism (the evidence for semi-mobile pastoralists has been employed as secondary proof of horse domestication in the fourth and third millennia BC). Horse-riding also would grant to those communities that possessed it a decisive military advantage over their neighbors, both in terms of swift raids and also in avoiding pursuit. As was the case with the American Indians, who gained the domestic horse only after European contact, horse-riding would itself stimulate the emergence of a complex of horse-associated system of values (wealth, prestige, and ethics of warfare).

The Horse in Indo-European Myth

The horse had developed a powerful imaginal presence in IE sources even before it became a prime mark there, as the ubiquitous mount of a warrior-noble (as expressed in the terms *ritter*, *cavalier*, *caballero* and others). As an adjunct to the warrior, the horse seems first to be presented (in the archaic Greek and Indic sources) as one of a chariot pair, propelling the hero-warrior toward his enemy. The Irish insistence on the war-chariot's use in their own heroic literature is not borne out by archaeology and may be a late borrowing. Eventually, as in the western medieval context, the horse shows up as the Second Function (F2) figure *par excellence*, as in the widely known trifunctional collective of Knight, Horse and Hound: Knight emblematic of directing intelligence or, better, *esprit*; Horse signing warlike energy; Hound expressive of faithful service.

The association of horse and IE horse-riding hero can begin with the extraordinary birth of this hero, when a horse is "twinned" to him by being foaled at the same time he is born: this is seen, for instance, with the Irish hero Cú Chulainn and the Welsh Pryderi. The essential identity of the two is reinforced if the hero is called 'mare-suckled' (we have ancient Greek and medieval Serb evidence) or if, in reverse, the animal is given specifically human traits. So Xanthos, chariot-horse of Akhilleus, had oracular powers, and the horse of the legendary Serb hero Marko Kraljević, Sarač, knew human speech and drank wine like his master. Myth very often "mixes" the two, horse and hero: the Greek god Poseidōn, in stallion-shape, sired at least three sets of human twins while Pēgasus and a human hero, Khrūsāōr, were sired by Zeus, also in the shape of a stallion, on Medūsa: the two were "born" together when their monster-mother was beheaded by Perseus.

Another set of beliefs connects the natural and animal powers of the horse to a natural locus of power such as the wind—and mares in ancient Thrace were thought to be impregnated by the North Wind—or by or in water.

Extraordinary horses in the Armenian and Serb epic-heroic contexts were 'water-born', emerging from a lake (or sired by a stallion who came from a lake), and so were the chariot-horses of the Irish Cū Chulainn. The theme of twinning of horse and hero also continues in Armenian epic where the founding figures of a great heroic line were born after their mother had been impregnated in a lake, so they were considered 'water-born' while the Old Indic *Mahābhārata* (1(3)154) relates how Indra "obtained the horse Vaisvānara, the ancient fruit of the waters, as his mount". Water-horses may simply be hostile and monstrous, however, as they are in Norse folk-tradition.

The monstrous aspect of the horse indeed can show itself variously: in Greek legend there are flesh-eating horses that kill their master (these, too, were Thracian) and one of the widely-circulated tales about Alexander the Great had it that his horse, Bucephalos, was a man-eater. Other horses may be monstrous in their shape, like the eight-legged Sleipnir in Norse myth or the six-legged Lazky in the Armenian epos; the term 'winged' for a hero's mount, especially known in the Serb epos, evidently may be taken either figuratively or literally. But the monstrous aspect of the horse is also most closely associated with its fatal significance as a "horse of death", bearing its master on to his inevitable end. In Hādēs the Lord of the dead was 'famous for his horses' and is associated with the shades of the underworld. So, as the horse may be a sign in the IE-speaking world, of wealth, prestige, and rank, in the world of the imagination it occupies an ambiguous and often threatening and fatal place: in terms of the IE hero-figure—the primary horse-rider—and his various traditions the horse accompanies this human or superhuman exemplar from cradle to grave.

Other aspects of the horse, though widespread, are also found outside of IE traditions so that their specific attribution to PIE is suspect. For example, the concept of the sun (god or goddess) coursing the sky in a chariot or wagon drawn by white horses is widespread. Baltic tradition depicts the sun goddess Saulė travelling across the sky in a wagon drawn by four white horses. Among the Greeks, the sun god Hēlios also travelled across the sky in a horse-drawn chariot while the Old Indic sun god Sūrya had seven horses to pull him across the sky. The antiquity of such a motif can be seen in late Bronze Age Denmark where the bronze model of a horse pulling a golden sun-disk was recovered from a bog at Trundholm. But this motif is hardly confined to the IE world, e.g., there is evidence for the association of the solar deity with a horse-drawn wagon also in Mesopotamia.

Another mythic motif that has been projected into the PIE past is that of the horse tethered to the Cosmic Tree. The OInd *aśvatthá-* 'horse tree' is interpreted as the Cosmic Tree or *axis mundi* of the ancient Indians and, it is argued, finds a Germanic parallel in the ON *Ygg-drasill*, the Germanic Cosmic Tree, the name of which literally means 'Ōðinn's (Ygg is a by-name for Ōðinn that means 'terrible, rough') horse'.

Horse Sacrifice

Many if not most IE stocks reveal evidence for the sacrifice of horses. These may range from mortuary offerings to specific horse sacrifices, often as part of an inauguration ritual. This latter, it has been suggested, may well have its roots in PIE ritual since vestiges of it have been found in Celtic, Latin and Old Indic traditions. The clearest expression is to be found in the Indic *aśvamedha*, the inauguration ceremony of a king. Although a highly complicated affair, the pertinent comparative elements that are usually invoked are the following: 1) the sacrifice was concerned with the elevation of a member of the warrior-caste and although Prajāpati was the recipient, the original recipient is believed to have been the warrior deity Indra; 2) the ceremony took place in the spring; 3) the horse, a stallion, is described as grey or white; 4) the stallion selected was that which excelled on the right side of the chariot; 5) the stallion was bathed in water in which a dog was sacrificed and deposited; 6) the stallion was sacrificed along with a hornless ram and a he-goat (and many other animals were also dispatched); 7) the queen underwent a mock "coupling" with the stallion; 8) the stallion was then cut up, portions being awarded to different deities who bestowed the canonical three functional gifts of spiritual strength, physical strength, and wealth.

Parallels for this ritual have been sought in the Roman *Equus October*. These include: 1) the victim was offered to the warrior deity Mārs; 2) the sacrifice took place during September-October, the Roman equivalent of the Old Indic month *áśvayuja-* '(month of the) yoked horses'; 2) the victim was a stallion which excelled on the right side of a chariot; 3) the victim was dismembered, the head and the tail (some would argue a euphemism for penis) going to different locations.

The Irish analogue to all this was recorded in the Middle Ages by the Norman Geraldus Cambrensis who described the inauguration ceremony of a king in Ulster. Similarities with the other rituals comprise: 1) the high probability (Geraldus is not entirely explicit) that the king couples with the mare to be sacrificed; 2) the victim is dismembered (and is placed in a large cauldron to be cooked and then consumed by the king who also enters the cauldron).

The underlying structure of this ritual, which is supported by elements of IE myth, involve the coupling of a king with a mare, the latter which is seen as a representative of the tri-functional goddess of IE myth, i.e., the goddess who can impart to her chosen mate the blessings of the three "functions" of IE society. Some lexical support for this ceremony is claimed by the similarity of the Gaulish personal name *Epomeduos* and OInd *aśvamedha*. The Celtic form is a compound of 'horse' and **médhu* 'mead, intoxicating drink' while the Indic compound is composed of 'horse' and either 'drunk' (< **mad-dho-*) or 'strength' (< **mei̯-dho-*). This coupling, incidentally, produces the Divine Twins of IE myth. There are also numerous problems involved here which have been widely debated, e.g., the Roman myth has nothing to

do with a royal inauguration, the manner of execution of the horse (strangulation in India and a spear in Rome), and the degree to which the various rituals would appear to be concerned with fertility rites. Some, such as Edgar Polomé, regard the reconstruction of the horse sacrifice to PIE as unjustified given the differences between the various traditions.

The primary archaeological context for the ritual use of the horse is in burials. The tradition of accompanying burials with the full or partial remains of horses extends from the Copper Age down well into the historical period. Nearly three hundred cemeteries with horse burials are known from England to central Europe during the Middle Ages, for example, while the Baltic region displays an abundance of horse burials as well. The execution of horses upon the death of a Scythian king is described by Herodotus and royal tombs of the Iron Age steppe may number horses in the hundreds. This practice is widely found from the Ukraine to the Altai mountains. The horse was also frequently deposited with burials in Iron Age India. Horse burials are by no means confined to IE populations and are also widely known among the Turkic peoples, including the Avars of eastern Europe.

The earliest evidence for horse burial, however, has been presented as a marker of IE-speaking communities by some scholars who have emphasized the importance of the horse among the earliest Indo-Europeans which should also find a resonance in ritual. Some of the earliest ritual evidence cited is the horse skull from Dereivka which was accompanied by the forelegs of another horse and the remains of two dogs. This evidence has been interpreted by those who see it as a ritual deposit as an example of a "head and hooves" cult, i.e., where the head and hooves of the animal were mounted upright on a pole which subsequently collapsed. Horse skulls have also been recovered from the soil overlying the Khvalynsk cemetery of the middle Volga region. In both cases, their attribution to a deliberate ritual has been challenged. More certain are the depositions of horse remains within actual burials. This practice occurs on occasion in both the Yamna and Catacomb cultures where we find the skulls, hooves, and "head and hooves" buried with the deceased; sometimes this is in conjunction with other animals (cattle, sheep/goat, dogs). Horse skulls have been recovered on occasion from burials of the Globular Amphora, Corded Ware and Beaker cultures. These attest the suitability of the horse in the mortuary ritual of these various cultures but do not insure that the depositions are of domestic horses since all of these cultures buried wild as well as domestic animals with their deceased.

See also Dereivka; Divine Twins; Horse Goddess; Mammals; Sacrifice; Sredny Stog Culture; Transfunctional Goddess.

[D.Q.A., J.P.M., D.A.M.]

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HORSE GODDESS

Various Indo-European mythologies reflect the existence of a Horse goddess. Although the names of the divinities are not always cognate with one another, there are enough shared linguistic elements to reveal a common structural theme that may have been absorbed into the existing mythology of pre-Indo-European peoples. The horse goddesses are best represented in Old Indic tradition and among the Celts as the Gaulish Epona, the Welsh Rhiannon and the Irish Macha.

Celtic

The Irish goddess Macha was personified as three distinct mythological female figures. The first Macha was a prophetess (= First Function), wife of Nemed, 'the sacred one'. Macha foretold the suffering of the Ulstermen who fought in the *Tāin Bō Cūailnge*, the "Cattle Raid of Cooley". The second Macha, the warrior Macha Mongruad, 'red-maned Macha', fought the sons of King Dithorba for the right to finish her father's term of office as ruler of all Ireland. Macha was victorious, and she ruled for seven years. She later compelled the sons of Dithorba to build a fortress for her, the fort of Emain, shaping the boundaries of the fort with her brooch. That fort became the capital of Ulster. Macha later fell in battle, slain by the warrior Rechtaid 'red-wrist'. The color red underlines Macha's martial characteristics. (Similarly, the Indic goddess Devī becomes the 'red-toothed' after battling, and consuming, the Asuras; cf. *Devīmāhātmyam* 11.44-45).

The third Macha, she who fulfilled the Third Function, upon marrying a farmer, greatly increased his wealth, and became pregnant with his children. Superimposed upon her Third-Function fertility traits is the element of hippomorphism found also in the Welsh Rhiannon and Greek Dēmētēr. Macha was compelled to take on the function of a

horse, racing King Conchobor's horses, even though her pregnancy was at term. As she reached the finish line, victorious, she gave birth to twins, a mare and a boy, and then she died of the exertion (*Metrical Dindshenchas* "Ard Macha" 93 ff.), cursing the Ulstermen as she died. Each man and his descendants, through several generations, would in time of need be as weak as a woman in childbed, suffering the "pangs of Ulster". Later, when the Ulstermen battled the men of Connacht in the *Tāin*, the men were for a long time incapacitated by these "pangs".

Macha may be seen as a "transfunctional" or "tripartite" goddess, serving the three Indo-European functions of priest (prophetess), warrior, and fertility figure. To these functions was superimposed the function of horse, probably the horse which was sacrificed in the Indo-European horse sacrifice: the Indic *aśvamedha*, the Roman *Equus October*. This association receives some linguistic support in the thematically cognate figure of Queen Medb.

The epic Queen Medb was depicted as two figures: Medb of Connacht and Medb of Leinster ('Medb Lethderg'). She has the same character traits in both of her embodiments and she is obviously one female figure, a transfunctional goddess.

As queen of Connacht, Medb had several husbands, each of whom became king when he married her. She set rules for her husbands: they must be 'without stinginess, without jealousy, without fear' (*Tāin Bō Cūailnge* 27–28). In the *Tāin*, Medb's wealth was equal to that of her husband Ailill, save one bull; Medb, in order to match her husband, and to maintain an economic and thus social equalitarianism with him, decided to steal a brown bull which belonged to the people of Ulster, the brown bull of Cooley, and she therefore initiated the war of the *Tāin*.

Medb was queen in her own right (*Metrical Dindshenchas*, "Ath Luain" 17); a warrior who led the campaign against the province of Ulster; and a nurturing figure, 'the best (of all her sisters) in pledges and bestowal (of gifts)' (*Tāin* 15–16). She was in reality a transfunctional goddess who conferred sovereignty upon her mate. Lexically, OIr *medb* is 'strong, intoxicating'. *Flaith*, an Irish sovereignty figure, in Old Irish meant 'sovereignty, rule', but in Modern Irish it also means 'ale'. In the *Scēla Cano Meic Gartnāin* 452–453, a man will not 'be a king over Ireland if the ale of Cuala does not come to him.' In the *Book of Leinster* (6416), Medb of Leinster is called 'the daughter of Conan of Cuala'. So Queen Medb is the ale of Cuala, and it is she who brings the sovereignty over Ireland.

Rhiannon, the Welsh goddess, perhaps 'great queen' (cf. Wels *rhiain* 'maiden', OIr *rīgain* 'queen'), was associated with birds and horses. She appeared in the first branch or chapter of the *Mabinogi* riding a white horse. She married the hero Pwyll, and subsequently gave birth to a son, later named Pryderi; the child was stolen at birth, and her serving women, swearing that Rhiannon had murdered her son, substituted the bones and blood of an animal for the body of the baby. Rhiannon was made to suffer penance for this crime: she must sit near a horse-block outside the city gate, and offer to carry passersby on her back to the king's fortress. In a later chapter of the *Mabinogi*, Rhiannon was made to wear around her neck the collars of donkeys. She was thus a *horse-substitute*. At the very time of Pryderi's birth, the horse of Teyrnon Twrf Liant bore a colt. Moments later, Teyrnon Twrf Liant found a child, of obviously noble birth, lying just outside his door. Liant and his wife raised the boy, along with the colt, and subsequently, hearing of Rhiannon's misfortune, brought the boy to her. Thus Rhiannon, herself treated as a horse, gives birth to a child who is reared along with a horse (cf. Dēmētēr and Macha, both of whom give birth to both a horse and a child). Rhiannon is also connected with birds; the *birds of Rhiannon* sing while the bodiless head of Bendigeidfran, son of Llyr, talks to his seven friends for seven years.

Epona was the Gaulish Horse goddess. Her name appears in a multitude of Roman Celtic inscriptions, and the goddess is depicted in about two hundred images as a female figure sitting upon a mare, or flanked by horses. She is depicted with cornucopiae, fruit, corn and sometimes dogs. Epona herself has no mythology, but the equine myths of both Macha and Rhiannon probably are similar to those of Epona. The Greek Apuleius described an image and shrine of Epona (*The Golden Ass* 3.27); according to the Roman satirist Juvenal, soldiers worshipped Epona, hanging her picture in their 'smelly stalls' (*Satires* 8.156.7). Plutarch gives her a mortal origin: she is the product of Fulvius Stella, who hated women, and a mare (*Moralia* 312E). The latter description, as well as Celtic myth, may point to the Indo-European ritual horse-sacrifice, known in India as the *aśvamedha*.

Greek

The Greek Dēmētēr (Roman Ceres), although essentially a cereal goddess, the goddess of vegetation, offers some parallels with the other horse goddesses. The most famous hymn to her is *Homeric Hymn Two*, which describes her daughter Persephonē's abduction by the underworld god, Hādēs, Dēmētēr's world-wide search for her daughter, and her eventual arrival in Eleusis, where she established the Eleusinian Mysteries, a Greek mystery religion which probably celebrated death and regeneration. As long as Persephonē was in the underworld with Hādēs, Dēmētēr allowed no vegetation to grow; the land and living creatures were barren. Finally Persephonē was allowed to return to Dēmētēr and the upper world, albeit for only part of the year. While searching for Persephonē, Dēmētēr was pursued by Poseidōn; she transformed herself into a mare, in order to elude him, but he metamorphosed into a stallion and raped her. Dēmētēr subsequently bore twins: a daughter, the Despoina, and a horse, Areion. In this form the goddess was called *Dēmētēr Erinys*. A similar myth is told of the Indic Saraṇyū, who fled from her husband Vivásvat, having assumed the form of a mare. Vivásvat metamorphosed into a stallion and caught up with her, and of their intercourse were born the twin Aśvins.

Indic

Mādhavī, an Indic epic heroine, was given by her father Yayāti to a young brahmán, to enable the youth to fulfill a vow which he made to his guru: to obtain eight hundred horses, each the color of the moon, and each characterized by one black ear. The brahmán gave Mādhavī in marriage to three kings in succession, receiving as purchase price from each king two hundred of the rare horses. Since these six hundred horses were the only moon-colored black-eared horses in existence, the guru accepted Mādhavī in place of the last two hundred horses. Mādhavī bore a son to each of her four husbands, and she recovered her virginity upon the conclusion of each marriage.

After the fourth marriage, Yayāti held a *svayáṃvara* for Mādhavī. The *svayáṃvara* was a ceremony in which a young woman selected a husband from among a number of suitors. But Mādhavī chose *vana*, the forest, and an ascetic life, and she thus became a perpetual virgin. In this virginal, autonomous state, she became recharged with energy and virtue.

Many years later, Yayāti died and went to heaven; while there, becoming guilty of great pride, he fell back from heaven to earth. As he descended, he prayed that he might land in the middle of good men. He landed among his four grandsons, as they were performing sacrificial rites. The grandsons, along with Mādhavī, who came out from her forest hermitage, each gave to Yayāti a portion of his virtue, and Yayāti was enabled to ascend to heaven once again.

The name Mādhavī has the root found in the OIr Medb (and Gaulish Meduna and Medugenus). The Old Indic reflex of the root is *mádhu* 'sweet drink, honey, soma, milk'. The root underlying the Indic Aśvamedha which is sometimes compared here may be connected with OInd *mad-* 'boil, rejoice, get drunk', again indicating an intoxicating substance although by a different word; this substance played a part in the Indo-European ritual of the horse-sacrifice, the ritual which established the sovereignty of a king. The ritual of a sacrificed mare became the myths of Mādhavī exchanged for horses, of Medb the intermediary of sovereignty, and of the Celtic Macha and Rhiannon, forced to perform the functions of horses.

Although it is not possible to reconstruct a PIE *'Horse goddess' in the strict sense, there is considerable evidence for the existence of a bundle of IE themes concerning horse, twins, marriage to or legitimation of a king and intoxication that were incorporated into the structures of previously non-IE pantheons.

See also HORSE; TRANSFUNCTIONAL GODDESS. [M.R.D.]

Further Readings

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HORSE SACRIFICE *see* HORSE

HOSTILE

dusmenḗs 'hostile'. [*IEW* 727 (**men-*); GI 683; BK 154 (**t'ʸaw-/*t'ʸəw-*)]. Grk δυσμενής 'hostile', Av *dusmanah-* 'hostile', OInd *durmanā́s* 'sad'. Distribution is limited to late IE innovating dialects. From **dus-* 'bad' and **men-* 'thought'.

See also BAD; HATE. [E.C.P.]

HOUSE

dṓm (gen. ***déms***) 'house'. [*IEW* 198–199; (**domo-*); Wat 11 (**demə-*); GI 645 (**t'om*); Buck 7.12, 7.122; BK 133 (**t'im-/*t'em-*)]. Grk δῶ 'house', Arm *tun* (gen. *tan*) 'house', Av *dam-* 'house', OInd *dā́m* 'house'. Though attested only in the center and east of the IE world, its archaic formation makes it almost certain to reflect an old PIE term. Cf. **dems-poti-* 'master of the house' in Grk δεσπότης 'master, lord, owner', Av *də̄ng pati-* 'master, lord, ruler', OInd *dám-pati-* 'master, lord, ruler'.

dóm(hₐ)os 'house'. [*IEW* 198–199 (**domo-*); Wat 11 (**demə-*); GI 645 (**t'om*); Buck 7.12, 7.122; BK 133 (**t'im-/*t'em-*)]. Lat *domus* 'house', *dominus* 'master of the household', Lith *nãmas* (with assimilation of **d-* to the nasality of the following *-m-*) 'house', OCS *domŭ* 'house', Rus *dom* 'house', Grk δόμος 'house; course of bricks', OInd *dáma-* 'house'. Directly derived from **dem(hₐ)-* 'build' or a thematicization of the previous word. Whatever the exact morphological history, clearly of PIE status.

h₂u̯óstu 'dwelling'. [*IEW* 1170–1171 (**u̯es-*); Wat 78 (**wes-*); GI 645 (**Hwes-*); Buck 7.12, 7.122; BK 368 (**aw-/*əw-*)]. Grk (ϝ)ἄστυ 'city', OInd *vā́stu* 'place, seat, thing', cf. *vā́stu-* (< **h₂u̯ēstu*) 'house, dwelling', TochA *waṣt* 'house', TochB *ost* 'house'. Cf. also OIr *i foss* 'at home', Wels *gwas* (< **h₂u̯ostos*) 'abode', ON *vist* (< **h₂u̯estis*) 'sojourn'. A derivative of **h₂u̯es-* 'dwell, pass the night, stay', as seen for instance in Grk νύκτα ἄ(ϝ)εσα 'I passed the night' or Hit *hues-* 'be (alive)'. Both Greek and Hittite presuppose a PIE **h₂u̯es-* for the underlying verb which is incompatible with a direct relationship with Grk (ϝ)ἄστυ. Perhaps Proto-Greek **wástu*, with its admittedly difficult root vowel, is a borrowing from some non-Greek but Indo-European language of the Balkans which had already lost the initial laryngeal. In any case, **h₂u̯óstu* would appear to be of PIE age. Difficult also is a relationship with Lat *Vesta* (goddess of the hearth) and Grk ἑστία 'hearth, altar; house, family', since they too show no sign of an initial laryngeal. Perhaps we have a variant **u̯es-* of **h₁eus-* 'burn' in this case.

trēbs (acc. ***trébm̥***, gen. ***tr̥bós***) 'dwelling'. [*IEW* 1090 (**trēb-*); Wat 71 (**treb-*); Buck 7.122]. OIr *treb* 'habitation,

The Proto-Indo-European House

		Celt	Ital	Gmc	Balt	Slav	Alb	Grk	Arm	Anat	Iran	Indi	Toch
doorjamb	*h$_a$énh$_x$t(e)h$_a$	-	x	x	-	-	-	-	x	-	x	x	-
door	*dhu̯ōr	x	x	x	x	x	x	x	x	x	x	x	x
floor	*dm̥-pedom	-	-	x	-	-	-	x	-	-	-	-	-
house	*dóm	-	-	-	-	-	-	x	x	-	x	x	-
	*dóm(h$_a$)os	-	x	-	x	x	-	x	-	-	-	x	-
dwelling	*h$_2$u̯óstu	x?	-	-	-	-	-	x	-	-	-	x	x
	*trēbs	x	x	x	x	-	-	x	-	-	-	-	-
	*solo/eh$_a$	-	-	x	x	x	x	-	-	-	-	-	-
room	*k̂el-	x	x	x	-	-	-	x	-	-	x	x	-
	*ket-	-	-	x	-	x	-	-	-	-	x	x	-
plank	*bhélh$_a$ĝs	-	x	x	x	x	-	x	-	-	-	-	-
	*kl̥h$_x$-ro-s	x	-	-	-	-	-	x	-	-	-	-	-
	*plut-	-	x	x	x	-	-	-	-	-	-	-	-
	*s(u̯)el-	-	-	x	-	-	?	x	-	-	-	-	-
post	*k̂líts	x	-	x	x	-	-	x	-	-	-	x	-
	*k̂súlom	-	-	-	x	x	-	x	-	-	-	-	-
	*kroku-	x	-	-	x	x	-	x	-	-	-	-	-
	*míts	x	-	x	x	-	-	-	x	-	-	x	-
	*masdos	x	x	x	x	x	-	-	-	-	-	-	-
	*perg-	-	x	x	x	x	-	-	-	-	-	-	-
	*(s)teg-	-	x	x	x	x	-	-	?	-	-	-	-
	*reh$_1$po/eh$_a$-	-	-	x	-	x	-	-	-	-	-	-	-
	*reh$_1$t-	-	x	x	-	x	-	-	-	-	-	-	-
	*steh$_2$bho/eh$_a$-	x	-	x	x	x	-	-	-	-	-	-	-
	*stéh$_2$ur	-	-	x	-	-	-	x	x?	-	-	x	-
	*stl̥neh$_a$-	-	-	x	-	-	-	x	-	-	-	-	-
	*su̯er-	-	x	x	-	-	-	x	-	-	-	x	-
	*u̯álsos	-	x	x	-	-	-	x	-	-	-	x?	-
roof	*k̂ropos	x	-	x	-	-	-	-	-	-	-	-	-
	*h$_1$rebh-	-	-	x	-	x	-	x	-	-	-	-	-
	*(s)téges-	x	x	x	x	-	-	x	-	-	-	x	-

family, tribe', Wels *tref* 'village', *a-dref* 'at home', Lat *trabs* ~ *trabēs* 'beam, timber, rafter; roof-tree' (with analogical zero-grade), Osc *tríibo-* (< **trēbeh$_a$-*) 'house', ON *þorp* 'farm, estate; grave mound', *þrep* 'vault', *-þrep* 'estate', OHG *dorf* 'village, estate', Goth *þaúrp* 'field, land, property', Lith *trobà* 'house, building', Latv *trāba* 'building'. Cf. **trebno-* in Umb *tremnu* '(augural) tent', Grk *τέραμνα* ~ *τέρεμνα* (< **térbno-* with an intrusive medial vowel breaking up the difficult consonant cluster) 'house, dwelling'. Widespread in the west and center of the IE world.

***solo/eh$_a$-** 'dwelling, settlement'. [*IEW* 898 (**sel-*); Wat 57 (**sel-*); GI 649 (**sel-*)]. From **solo/eh$_a$-*: ON *salr* 'building, room', OE *sæl* 'room, hall, castle', OHG *sal* 'building, room', Goth *saljan* 'stay; be the guest of' (denominative verb to an unattested **sals* 'dwelling, room'), Lith (dial.) *salà* 'village', Latv *sala* 'village'; from **so/elitu̯eh$_a$-*: OE *sælþ* 'dwelling, house', OHG *selida* 'dwelling, house', Goth (pl.) *saliþwōs* 'inn, dwelling', OCS *selitva* 'dwelling'; other formations: ON *sel* 'chalet, mountain dairy', OE *sele* 'hall, house, dwelling; prison', *gesele* 'tabernacle' (ON/OE < **soli̯o-*), *seld* 'hall, palace, residence', OCS *selo* 'field, village', Rus *seló* 'village'. Northwestern dialectal term.

***k̂éls** (gen. ***k̂(l̥)lós**) '(store)room'. [*IEW* 553–554 (**k̂el-*); Wat 28 (**kel-*)]. Lat *cella* (< **cēla* with length reassigned from vowel to consonant) 'store-room, cell, granary', *clam* 'secretly, privately', Grk *καλῑᾱ́* (< Pre-Grk **kal-is-i̯ā-?*) 'wooden dwelling, hut; nest; shrine, grotto', NPers *sarāy* 'abode', OInd *śālā* 'building, house, room', *śālām* 'at home'. Cf. OIr *cuile* (< **k̂olii̯eh$_a$-*) 'storeroom, kitchen', and also ON *hǫll* 'great hall', OE *heall* 'hall' (> NE *hall*), OHG *halla* 'hall' (as if < **k̂olneh$_a$-*). A root nominalization from **k̂el-* 'protect, conceal' with a sufficiently wide distribution to suggest PIE antiquity.

***ket-** 'room'. [*IEW* 586–587 (**kēt-*); GI 126 (**k^{h}et^h-* ~ **k^{h}ot^h-*)]. OE *heaðor* 'enclosure, prison', Goth *hēþjō* 'room', OCS *kotĭcĭ* 'chamber', Rus *kotéc* 'fishweir', Av *kata-* 'chamber',

NPers *kad* 'house', OInd *cattá-* 'hidden'. Grk κοτύλη 'cup' has been also been assigned here but this may be disputed. Distribution indicates PIE status. This word was borrowed into Finno-Ugric, e.g., Finnish *kota* 'dwelling, tent, hut', Estonian *koda* 'house', Mordvin *kudo* 'house'.

gubho/eh$_a$- '(store-)room, alcove'. [*IEW* 395 (**gupā*); Wat 33 (**ku-*); Buck 7.13, 7.21]. ON *kofi* 'room', OE *cofa* 'cove, bedchamber' (> NE *cove*), OHG *kubisi* 'hovel', Bajui *bidyāj* (< Proto-Iranian **pati-gubhakā-*) 'lower part of storeroom'. The apparent agreement of Germanic and Iranian is strongly suggestive of PIE status for this word. Perhaps from the rather amorphous root **geu-* '± bend'.

?*pḗr (gen. ***pr̥nós**) 'house'. [GI 645; BK 61 (**p[h]ie-/ *p[h]er-*)]. Hit *pēr* (gen. *parnas*) 'house', *parna-* 'house', *parnant-* 'house', *parnawā(i)-* 'build', Luv *parna-* 'house', HierLuv *parna-* 'house', Lycian *prñnawa-* 'build'. The nominative **pḗr* is the phonologically expected outcome of the morphologically regular **pḗr̥*. Attested as such only in Anatolian, the word is not securely PIE in status. In favor of such status is the obviously archaic shape of its paradigm and the possibility, allowed by some, denied by others, of relating to this word the widespread **prih$_x$os* 'dear, beloved' (< *'of the [same] household'). There is also perhaps one possible cognate outside of Anatolian in Iranian where we find Khot *pira-* (< **pr̥io-*) '± house'. Against attributing PIE status to this word is, of course (if one does not accept the Iranian word is cognate), its restriction to Anatolian and the existence of words of a similar shape in non-IE languages of Asia and Africa, e.g., Egyptian *pr* 'house', Hurrian *pur(u)li* 'house'.

The Proto-Indo-European House

The range of architectural forms which a house might have taken during the period of PIE antiquity is considerable. The structure might be set either on the surface or sunk into the ground, i.e., semi-subterranean. Its walls may have consisted of stone, stone foundations with mud-brick superstructure, wooden planks, posts interwoven with wattle and daub, or walls constructed of stacked sods. The shape of the house might range from circular, small rectangular, rectangular with an apsidal end, to a long house and the number of rooms may have varied from a single to many. Other appurtences may have included a porch or an interior court. Although most structures were single-storied, there is also some evidence for two-storied structures as well. Entrance was almost always through a doorway although in Anatolia there is also evidence of entrance portals through the roof. Settlement in most areas of Europe and Asia was nucleated, i.e., a series of houses clustered together to form a village although there is also evidence of dispersed single-house settlements, especially on the northwestern peripheries of Europe.

The terminology associated with Indo-European domestic architecture permits at best the most general description of its structure. The primary words for 'house' would appear to have been **dṓm* or **dóm(h$_a$)os* with **h$_2$u̯óstu* 'dwelling' as a term both vague in meaning and derivative in construction. Reconstructing words for the various parts of the house is more difficult. One can easily reconstruct a word for 'hearth' but the presence of a hearth is, of course, not diagnostic of any particular culture or construction type. The 'floor' of the house is limited to a Germanic-Greek isogloss, **dm̥-pedom*. For 'roof' we have much stronger evidence in the form of a reconstructed **h$_1$rebh-* 'cover with a roof'. The more general **(s)tég-* 'cover' is also used for 'roof' in several stocks and, by metonymy, for 'house' in general. This use of **(s)teg-* for 'roof' may well be the result of independent developments in the several stocks that show it. In both Germanic and Greek words for 'roof' overlap with words for 'thatch' and that overlap may be significant but one should note that the Iranian descendant of **h$_1$rebh-* means 'plank'. On the other hand, the TochB word for 'roof' is *ṣim* from PIE **sih$_2$mn̥* '± what is bound together' and might well have originally referred to a bundle of thatch.

There are abundant terms for 'post' but none seems necessarily to have meant 'house-post' or the like. Nor do the words for 'plank', in any case restricted to the European branches of IE, demonstrate anything more than that the Proto-Indo-Europeans were familiar with worked wood of one sort or another, whether used in house-construction or for other things. More significant for the insights it might give us into PIE house-construction is **k̂red-* 'framework of wood'. The presence of such a word suggests at least one building technique. So does the best attested component of the house, namely the **dhu̯ōr* 'door' which is practically universal in the various IE stocks, and which was apparently set between **h$_a$énh$_x$t(e)h$_a$* 'doorjambs', a term whose distribution also guarantees it PIE status. A house with doors and a wooden framework will, practically of necessity, also have walls. The word that would appear to fill this piece of semantic space may have been **dĝ́hs* though its original referent may have been to something other than the sides of a house. It seems more likely then that its association with words indicating 'dough' and hence 'clay' refers to an earthen bank surrounding a settlement though its extension to the wattle and daub component of a house wall would have been natural enough.

The structural terms associated with the house were also extended to the social unit inhabiting it. For example, as with the term 'house' in English, so does PIE **dom(h$_a$)os* 'house' refer to both the structure and the family inhabiting it while the *tatpuruṣa* compounds with PIE **pótis* 'lord' designate the patriarch. Thus: Lat *domus* 'house' and *dominus* 'head of household'; Grk **δόμος** 'house' and **δεσπότης** 'householder'; OInd *dáma-* 'house' and *dám-pati-* 'master of the house'; cf. also Grk **δμώς** 'slave' and **δμωή** 'female slave'.

Proto-forms have also been reconstructed for the unit formed by several joint families: PIE *u̯eik̂-/*u̯oik̂-* from **u̯ik̂-* 'to settle'. The *o*-grade form gives **u̯óik̂os* which designates the physical construction and even stresses topographic

clustering: Lat *vīcus* 'village, dwelling cluster', Grk *οἶκος* 'house, homestead of joint family'. The zero-grade root-noun **u̯ik̂-* refers mostly to the social unit.

See also BUILD; DOOR; FAMILY; FENCE; FLOOR; FORT; FRAMEWORK; GROUND; HEARTH; MASTER; PLANK; POST; ROOF; VILLAGE; WALL. [A.D.V., D.Q.A., J.P.M.]

Further Reading

Knobloch, J. (1980) Ergologische Etymologie des indogermanischen Hausbaus. *Sprachwissenschaft* 5, 172-200.

HOUSEHOLD *see* FAMILY

HOW (MANY) *see* PRONOUNS (INTERROGATIVE)

HOWL

***bukk-** 'howl' (pres. ***búkketi**). [*IEW* 97 (**b(e)u- ~ *bh(e)u-*)]. SC *búkati* 'howl', Grk *βύκτης* 'howling', Av *buxti-* 'howling', OInd *bukkati* 'bark'. Perhaps an onomatopoeic formation of PIE date.

See also ANIMAL CRY; BARK². [D.Q.A.]

HUB *see* NAVE

HUM

***kem-** 'hum'. [*IEW* 556 (**kem-*); Wat 29 (**kem-*)]. ME *hummen* 'hum' (> NE *hum*), MHG *hummen* 'hum', OPrus *camus* 'bumble-bee', Lith *kìmstu* 'become hoarse', Latv *kamines* 'bee, bumble-bee', Rus *cmelī* 'bumble-bee'. Though possibly of onomatopoeic origin, there is reason to suppose that in this word we have something of late (northwestern) dialectal IE date.

See also BEE. [D.Q.A.]

HUMBLE

***kaunos** 'humble, lowly'. [*IEW* 535 (**kau-no-s*); Buck 16.45]. OE *hēan* 'lowly, despised', *hȳnan* 'despise', *hīenþ(o)* 'disgrace', OHG *hōni* 'despised', *hōnen* 'despise', *hōnida* 'shame', *hōna* 'mockery', Goth *hauns* 'humble', Lith *Kaũnas* (place name, second city of Lithuania, originally 'Low Place'), Latv *kàuns* 'shame, disgrace', *kàunīgs* 'bashful', *kàunêtiês* 'be ashamed', Grk (Hesychius) *καυνός* 'bad, evil'. More distantly related are ON *hād* (< **hawiþa-*) 'mockery', Lith *kūvėtis* 'be ashamed'. The Greek gloss rhymes with the other Hesychius gloss *καῦρος* 'evil'. A word of the west and center of the IE world.

[E.C.P.]

HUNGER

***Kos-t-** 'hunger'. [GI 607; Del 84]. Hit *kāst-* 'hunger', TochA *kaṣt* 'hunger', TochB *kest* 'hunger'. Secure connection only between Hittite and Tocharian with a variety of questionable suggestions (reviewed in detail by Tischler). The most plausible, to OInd *jásuri-* 'hungry', would find support in HierLuv *astar* on the reading 'by/from hunger' and would moreover support a voiced initial. While this might lead to positing **ges-*, earlier proposed connections to **gʷes-* 'extinguish' are not tenable.

***kenk-** 'hunger' (< 'to burn, hurt'). [*IEW* 565 (**kenk-*); Wat 29 (**kenk-*); Buck 5.14]. ON *hungr* 'hunger', OE *hungor* 'hunger' (> NE *hunger*), OHG *hungar* 'hunger', Goth *hūhrus* 'hunger', Lith *kankà* 'pain, torment', Grk (Hesychius) *κέγκει* 'be hungry', *κάγκανος* 'dry'; OInd *kákate* 'is thirsty' is cited in *IEW* but is a ghost word. This represents more likely an independent semantic extension of the root **kenk-* 'to burn, hurt' than a PIE form.

See also EAT AND DRINK; PAIN. [J.C.S.]

HUNT

***leuh$_x$-** 'hunt'. Preserved as such only in Slavic: OCS *lovŭ* 'hunt', *lovītī* 'to hunt', Rus *lov* 'capture, catch', *lovītī* 'chase, hunt; capture, catch'. A derivative **léuh$_x$ōn* (gen. **luh$_x$nós*) 'the one of the hunt' persists in Grk *λέων* 'lion' (< *'the hunter'), TochA *lu* 'animal', TochB *luwo* 'animal' (< *'the hunted'). (From Grk *λέων* was borrowed Lat *leō*, whence the word for 'lion' in most western European languages.) The Greek-Slavic-Tocharian distribution strongly suggests a PIE word.

***u̯reg-** 'track, hunt, follow'. [cf. VW 454]. Lat *urgēre* 'press, urge', ON *reka* 'push, chase; punish', OE *wrecan* 'push, impel; drive out, punish' (> NE *wreak*), Goth *wrikan* 'persecute', Hit *ūrki-* (< **u̯r̥gi-*) 'track, trail', TochA *wark* 'hunt, hunting', TochB *werke* 'chase, hunt, hunting'. The distribution assures the PIE status for this word.

***h$_a$eĝreh$_a$-** 'hunt'. [*IEW* 6 (**aĝ-rā*); cf. Wat 1 (*ag-*)]. OIr *ār* 'carnage (especially by dogs), battlefield', Wels *aer* 'battle', Grk *ἄγρη* 'hunt', Av *azrō-* 'hunt'. Although all are derived from **h$_a$eĝ-* 'drive', the antiquity of this loose set of comparisons is not clear. The Avestan term occurs in a compound hapax *-azro-daiδim* as an epithet of a she-wolf and is also translated as 'roaming in the fields'; cf. also OInd *ghasé-ajra-* 'stimulating the appetite'.

See also LION; RELEASE. [E.C.P., D.Q.A.]

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HURRY

***speud-** 'hurry'. [*IEW* 998–999 (**(s)p(h)eu-d-*)]. Lith *spáusti* 'press', Grk *σπεύδω* 'hurry'. Cf. the derivative **spoudeh$_a$-*: Lith *spaudà* 'press', Grk *σπουδή* 'haste', NPers *poy* 'haste', Parth *pwd* 'course, run', Alb *punë* (< **pudneh$_a$-*) 'work', *punoj* (vb.) 'work', Arm *p'oyt'* 'zeal'. Cf. also ON *spjōt* 'spear', OHG *spioz* 'battlespear'. With derivatives, widely enough attested to be assigned PIE status.

***sperĝh-** 'move energetically'. [*IEW* 998 (**sperĝh-*); Wat 64 (**spergh-*)]. ON *springa* 'spring', *sprengja* 'sprinkle', *sprōga* 'spring, run', OE *springan* 'spring' (> NE *spring*), *sprengan* 'burst, sprinkle, sow', OHG *springan* 'spring', *sprengan* 'make

(a horse) jump; sprinkle, strew', Grk *σπέρχω* 'drive, press', *σπέρχομαι* 'hurry', Av *ā-spərəza-* 'be excited', OInd *spṛháyati* 'desires', TochAB *spärk-* 'disappear, perish'. Sufficiently widespread to guarantee its PIE status.

sel- 'move quickly'. [cf. *IEW* 899 (**sel-*), 909–910 (**ser-*)]. ON *selja* 'deliver, sell', *sala* 'sale', OE *sellan* 'deliver, sell' (> NE *sell*), *sala* 'sale' (> NE *sale*), OHG *sellen* 'deliver, sell', Goth *saljan* 'present, sacrifice', OCS *sŭlŭ* 'messenger', *sŭljǫ* 'send', Arm *yłem* (if < **y-łem*) 'send', OInd *ucchalati* 'hurries forward', *sísarti* 'stretches out, extends', *sísrate* 'they rush off, stretch out', TochAB *¹säl-* 'fly', *²säl-* 'throw (down)'. Widespread and old in IE.

?*krob- 'hurry'. [*IEW* 934–935(**(s)kre-b-*); VW 196]. MIr *crip* ~ *crib* (< **kṛb-*) 'quick', ON *hrapa* 'fall; hurry', MLG *rap* 'quick', *sik reppen* 'hurry' (Gmc < **krob-*), TochAB *kārpā-* 'descend, come down, step down' (Toch < **korb-*). If all these words belong together, and the Tocharian is admittedly semantically distant, then we have good evidence for a PIE term. If Tocharian does not belong here, then we have evidence for a dialect term of the IE west.

See also DRIVE; FAST; JUMP; RUN; SET IN MOTION. [D.Q.A.]

I

ICE

***i̯eg-** 'ice, icicle'. [*IEW* 503 (**i̯eg-*); Wat 79 (**yeg-*); GI 588 (**(y)ek'-*); Buck 1.77]. OIr *aig* (gen. *ega*) (< **i̯egi-*) 'ice', Wels *iâ* 'ice', ON *jaki* (< **ekan-* < **jekan-*) 'piece of ice', *jǫkull* (< **ekula-*) 'icicle', OE *gicel(a)* 'icicle' (> NE *icicle*), OHG *ihilla* 'icicle', Hit *eka* 'ice'. Probably PIE status. A PIE origin would be more certain if Sarikoli *yoz* 'glacier', Wakhi *yaz* 'glacier', reflecting a Proto-Indo-Iranian **yaźā-*, comes from PIE **i̯eĝeh*$_a$-.

?*h$_1$eih$_x$- 'ice'. [*IEW* 301 (**ei-s-*); Wat 16 (**eis-*); GI 588 (**eis-*); Buck 1.77]. ON *īss* 'ice', OE *īs* 'ice' (> NE *ice*), OHG *īs* 'ice' (Gmc < **īsa-*), Lith *ýnis* 'glazed frost', OCS *inĭje* 'hoarfrost', Rus *ínej* 'hoarfrost', Av *aēxa-* 'frost, ice', *isu-* 'icy', Oss *yex*, *ix* (< **aixa-*) 'ice'. The Baltic and Slavic forms have **(h*$_x$*)ih*$_x$*-ni-*. The Germanic forms may derive from either **(h*$_x$*)ih*$_x$*-* or *h*$_1$*ei(h*$_x$*)-*. Neither Avestan *-x-* nor *-s-* can derive from a PIE *-s-*; they continue *-kh*$_x$*-* (< **-kh*$_2$*-o-* < **-keh*$_2$*-*?) and **-k̂-* respectively. This leaves only a root etymology for PIE 'ice'.

***ghel(h̥$_2$)d- ~ *ghl̥(h$_2$)-ed-**? 'hail'. [*IEW* 435 (**gheləd-*); Wat 22 (**gheləd-*)]. OCS *žlědica* (< **eld-*) 'freezing rain', Rus *žlédica* 'freezing rain', Grk *χάλαζα* 'hail', NPers *žāla* (< **alda-*) 'hail'. Greek points to **d*, which would agree with Slavic as this has an acute tone. The Greek form requires a laryngeal, **ghl̥(h*$_2$*)-ed-*. At least late PIE status.

?*kaghlos 'hail'. [*IEW* 518 (**kaghlo-*); Wat 26 (**kaghlo-*)]. ON *hagl* 'hail', OE *hagol* 'hail' (> NE *hail*), OHG *hagal* 'hail' (< Gmc **hagla-*), Goth *haal* (name of a rune sign), Grk *κάχληξ* 'small stone, gravel in a river', (late) *κόχληξ*. This set should be abandoned as non-IE. As PIE had no **a*, we would have to posit **kh̥*$_2$*gh-*, which does not inspire confidence. The Greek word has been considered onomatopoeic (cf. *καχλάζω*) or a substrate word, related to *χάλιξ* 'cup' (whence Lat *calx*). Cf. also Grk *χάλαζα* 'hail'.

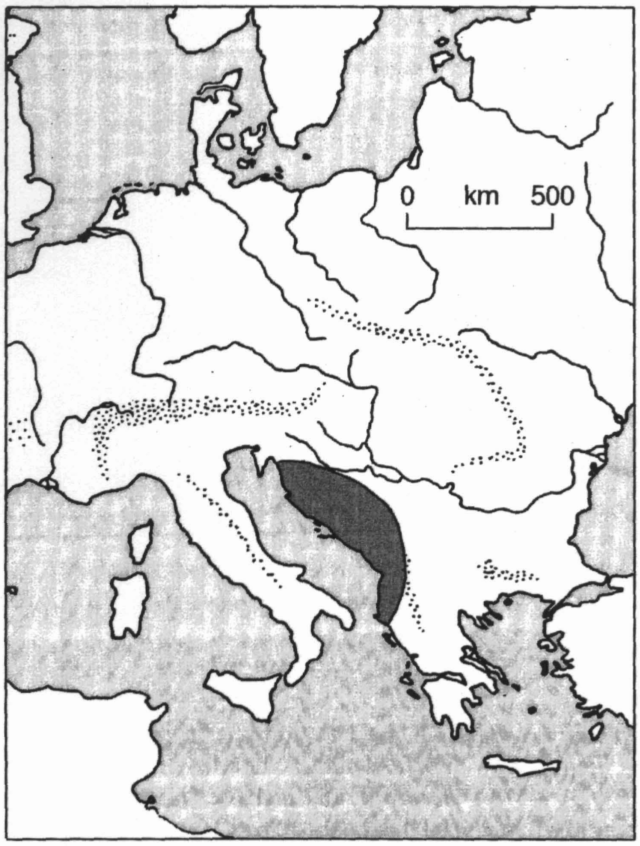
***k̂er(s)no- ~ *k̂or(mo/meh$_a$)-** 'hoarfrost, frozen snow'. [*IEW* 573–574 (**k̂er-no-*)]. ON *hjarn* (< **her(z)na-*) 'frozen snow', Lith *šarmà* (< **k̂ormeh*$_a$*-*) 'frost', *šeřkšnas ~ šiřkšnas* (< **k̂(e)r-sno-*) 'hoarfrost', Latv *sar̂ma* 'frost', *sȩ̄rsns*, *sȩ̄rsna* 'frost', ORus *serenŭ* (< **sernŭ-*) 'frozen snow', Rus *séren*, *serën* 'frozen snow', Arm *sarn* (gen. *sarin*) 'ice', *sarnum* (< **k̂or-*) 'freeze'. At least of late IE status.

***preus- ~ *prus-** 'frost'. [*IEW* 846 (**preus-*); Wat 53 (**preus-*); GI 589 (**p*^{h}*reu-so-*)]. Lat *pruīna* (< **prusu̯īnā*?) 'hoarfrost', ON *frør* ~ *frer* (< **fruza-*) 'frost', *frost* 'frost', OE *forst* 'frost' (> NE *frost*), OHG *frost* (< **frusta-*) 'frost', Goth *frius* (< **freus-*) 'frost', OInd *pruṣvā́* ~ *prúṣvā* 'hoarfrost' (but perhaps rather 'dew, drop' < **prus-* 'sprinkle'?). ON *frør* and Gothic point to a root noun **preus* ~ **prus-* with **prus-to-* and **prus-u̯o-* 'frozen'? Uncertain are the possible Celtic cognates: OIr *réud* (*DIL reód*) 'strong cold', and Wels *rhew* 'strong cold'. The root ultimately derives from **preus-* 'to freeze'. With the Old Indic cognate uncertain, this need not reflect anything other than a northwest dialectal term in late IE.

See also SNOW. [R.S.P.B.]

ILLYRIAN LANGUAGE

Illyrian was the major although scantily attested IE language of the northwest Balkans spoken over the territory of ancient Illyria, later the Roman province of Illyricum. The Illyrians constituted a loose tribal confederation that occupied Albania, Dalmatia, Bosnia and Croatia although the earliest historical accounts and place names suggest that as an ethno-linguistic group, they were largely confined to the south of this territory while further north very different tribes were often incorporated into the geographical entity of "Illyria" by various



Illyrian Approximate distribution of the Illyrians.

classical authors. A pan-Illyrian theory was promulgated by a number of modern linguists who made the Illyrians coincident with the eastern Urnfield culture and sought them over most of central and much of eastern Europe; they were even tracked as far west as Ireland! In actual fact, the Illyrian language is only marginally attested in glosses in Greek texts, place and personal names. A putatively Illyrian inscription of three words on a ring from Kalaja Dalmaçes in Albania was originally read *ana oēθē iser* and translated as a votive to the sacred goddess Oēθē until it was shown that the ring was actually Byzantine and when read from bottom to top clearly read in Byzantine Greek 'Lord, help Anna'.

Illyrian is generally presumed to have been closely related to Messapic, a language known in a series of Iron Age inscriptions from southeast Italy. The Messapi were supposed by Roman historians to have come to southeastern Italy from Illyria in late prehistoric times (the name of the Daunians of the same region in Italy was derived from that of a rich Illyrian by the name of Daunus), so a linguistic relationship between Messapic and Illyrian would be reasonable. However, the marginal attestation of Messapic and the almost complete lack of Illyrian data make a Messapic-Illyrian connection an assumption and nothing more. In that the Albanians occupy part of the former territory of the Illyrians, it is also possible that the Albanian language continues the earlier Illyrian. Again such a connection is not demonstrable. Illyrian is too little known and Albanian is first attested only in the fifteenth century, already having undergone very substantial phonological changes.

Historically, Illyrian tribes such as the Dardani and Paeones appear in the *Iliad* as allies of the Trojans where they occupy a traditional position as one of the opponents of the Greeks due to their opposing interests in controlling the Adriatic seaways. The Greeks established a colony in the south of Illyria by the seventh century BC. The later Illyrian kings came into conflict also with the Macedonians while Queen Teuta, in the late third century BC, antagonized the Romans with her fleet and set in train a series of wars that brought about the conquest of Illyria by the Romans. In 168 BC Gentius (Genthius), the last Illyrian king, surrendered to the Romans. Illyricum became a military recruiting ground for the Roman Empire producing not only many of its troops but also some of its more notable emperors, including Diocletian and Constantine the Great. During the sixth and seventh centuries AD Illyrian territory was overrun by Slavic tribes who spread their language over the entire region, except for Albania.

Description

There is just enough evidence to make it relatively certain that Illyrian was Indo-European. The Illyrian personal name *Teuta* (< **Teutana*) and the identical tribal name *Teuta*, for example, are clearly relatable to OIr *tūath* 'a people', Wels *tud* 'country', Osc *touto* 'community', Umb (acc) *totam* 'citizenry', ON *þjōð* 'folk', OE *þēod* 'folk', OHG *diot* 'people', Goth *þiuda* 'folk', OPrus *tauto* 'country', OLith *tautà* 'people', Latv *tàuta* 'people', etc., all from PIE **teutéh$_a$-*. Personal names, built on the numerals as in Latin, e.g., *Tritanus, Tritano* 'Third', *Sestus, Sextus, Sexto* 'Sixth', also appear to be fairly transparent. To go beyond this becomes increasingly difficult since all further evidence is largely confined to place and personal names whose etymologies may be challenged. If, for example, the name of the Illyrian king *Gentius* (*Genthius*) is derived from **ĝen-* 'be born', then we have evidence of a centum language; but if the name *Zanatis* is similarly derived (or from **ĝen-* 'know'), then we have evidence of a satəm language or, perhaps, later palatalization. Similarly, mixed possibilities may be seen in the place-name *Asamum* if from **h$_a$ek̂-* 'sharp' (cf. OInd *aśman-* 'stone, rock'), an etymology that receives some support from a medieval reference to *Asamum* as *Lapida* 'stone' while the same root is also said to underlie the personal name *Acrabanus* where there is no evidence of palatalization. Edgar Polomé has summarized the existing phonetic rules of Illyrian as involving the merger of aspirates and non-aspirates (e.g., **g/*gh > g*), syllabic **r̥* and **l̥ > ur* and *ul*, and preservation of only the diphthongs *ai, au* and *eu*. To these might possibly be added delabialization of the labio-velars and **o > a*.

Illyrian Origins

The Roman author Appian (*The Illyrian Wars* 2) suggested that the Illyrians, along with the Celts and Galatians, all stemmed from three children of the cyclops Polyphēmus and emigrated to their historical locations from Sicily. This theory is not much less creditable than that of the pan-Illyrian enthusiasts who sought the Illyrians specifically in the Urnfield culture as this is precisely the archaeological phenomenon that is unattested in those territories (Albania, Bosnia) with the greatest claim to being considered Illyrian from an historical perspective.

Generally, most recent discussions of Illyrian origins discern a mixture of autochthonous pre-IE elements over which a layer of intrusive IE elements was superimposed. Such models must be seen as reflexes of much larger solutions to IE dispersals in general and the best that can be argued is that items characteristic of IE lexical-cultural reconstruction do not appear in the region of the Illyrians until the early Bronze Age. A pre-Illyrian (non-IE) substrate is consequently sought in the earlier Neolithic. In the core region of the Illyrians, the Neolithic culture is identified as the Hvar-Lisičići culture whose own origins lie in the Impressed Ware cultures of the central Mediterranean. By the late Neolithic influences are seen from Salcuţa-Bubanj, a culture whose origins lie further east in the Balkans but which either expanded or was pushed westwards at the end of the Neolithic (fourth millennium BC). By the end of the Copper Age, influences are seen to derive from the northern Baden and later Vučedol cultures from Croatia and the Carpathian basin which have been identified by supporters of the "Kurgan model" of IE dispersals as early IE-speakers in the Balkans.

By the beginning of the Bronze Age *c* 3000 BC, tumulus burials are common across Illyrian territory, fortified sites begin to appear and a coarse ware is widely found and interpreted as primary evidence for the gradual expansion of a new people who mixed with the earlier inhabitants. These changes are regarded as evidence of the last major cultural intrusion which might explain the arrival of Indo-Europeans in the region. Putatively local Illyrian evolution is particularly seen in the continuous development of the Glasinac culture of the late Bronze Age and early Iron Age in Bosnia. Subsequent developments such as continuity of settlement and culture in the Albanian Bronze Age or further north in Croatia are interpreted by some as evidence of the stabilization of the Proto-Illyrian identity of the region. Also, during the Bronze Age there is evidence of the spread of ceramics and mortuary ritual across the Adriatic into southern Italy which may play some part in the presumed similarities between the Illyrian and Messapic languages. The later expansion of the Urnfield culture into the region was limited to the deep interior while the coastal region more properly associated with the earliest Illyrians developed as a series of local cultures derived from the early Bronze Age which preserved the inhumation burial rite. The creation of local cultural groups in the centuries around 1000 BC which continued into the Iron Age (eighth–sixth centuries BC) is seen to mirror the later presence of a number of the major tribal groups of Illyria.

See also ALBANIAN LANGUAGE; GLASINAC CULTURE; ITALIC LANGUAGES; MESSAPIC LANGUAGE. [J.P.M.]

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IMPELLER

??*séu̯h̥$_x$tōr 'impeller'. [*IEW* 914 (**seu-*)]. Lat *Sāturnus* (god), OInd *Savitár-* (god). The two deities involved in this comparison have linguistically nothing in common. The deity corresponding to the Lat *Saturn* in ancient India is rather *Śani*, the son of *Sūrya* 'the Sun' and *Chāyā* 'the Shade', whose cult is associated with occultism and the origin of the *Vratyas*. The name *Savitár-* is from **séu̯h̥$_x$tōr* 'the impeller' < **seuh$_x$-* 'bend, impel'. He owes his immortality to the Ṛbhus; offers brought to him yield treasures; he 'impels' the sun (i.e., his golden arm pushes the sun between heaven and earth); he destroys the darkness and all ills tied with it; he wakes and takes to sleep men and animals. Related are OInd *suváti* 'brings in motion, presses, drives', cf. OIr *soïd* 'turns', Lith *sùkti* 'turn' (with underlying alternating stems: **seuh$_x$-* [OInd *savi-*] and **suh$_x$é-* [OInd *suvá-*]). *Sāturnus*, on the other hand, is an old Italic god, whose name was connected folk-etymologically with Lat *serō* 'cut' or *satus* 'sown', i.e., god of the harvest. In the Roman interpretation, Sāturnus is equated with the Greek Kronos and this provides the only structural basis for a comparison between the Roman Sāturnus, Greek Kronos, and the Old Indic Savitṛ.

In the IE cosmological system proposed by Jean Haudry, the early Indo-Europeans envisaged a universe consisting of three skies: a diurnal sky which was home to the celestial

deities, a night sky which had its own specific deities and the spirits of the dead, and a third transitional sky which comprised both dawn and twilight. The transitional celestial deities are represented by the Greek Kronos (who in the theogony of Hesiod is intermediate between the representative of the night sky, Ouranos, and that of the diurnal sky, Zeus), the Indic Savitṛ whose association with the rising and setting of the sun are familiar motifs in the Vedas, and the Roman Sāturnus. The feast of the latter, the Sāturnālia, mark the period immediately preceding the winter solstice, i.e., the 'twilight' of the year (as Savitṛ is associated with the twilight of the day; cf. also the Old Irish feast of *samain* which marked the end of the Celtic year). The derivation of Sāturnus (and its doublet Saeturnus) is obscure and also includes a possible Etruscan loan although Haudry mentions the possibility that it may be related to Savitṛ (cf. Hit *sāwatar* 'horn' [< *suwāi-* 'strike'] with an underlying **suh$_x$trom*) and come into Latin by way of Siculan, a poorly known Italic language.

See also Creator. [E.C.P., J.P.M.]

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IN

h$_1$en(i) 'in, into'. [*IEW* 311–314 (**en*); Wat 17 (**en*); BK 432 (**in-/*en-*)]. OIr *in* 'in(to)', Wels *yn* 'in(to)', OLat *en* 'in(to)', Lat *in* 'in(to)', ON *ī* 'in', OE *in* 'in' (> NE *in*), OHG *in* 'in', Goth *in* 'in(to), because', OPrus *en* 'in', Lith *į* ~ *in̄* 'in', Alb *n-* 'in, on', *inj* 'up to', Grk *ἐν* ~ *ἐνί* 'in', *εἰς* (< **en-s*) 'into, to', Arm *i* 'in', TochAB *y-* ~ *yn-* 'in, among'. A variant **h$_1$on* 'in' occurs in OCS *on* 'in', Hit *an-* 'in', TochA *-aṃ* 'in, to', TochB *-ne* 'in, to', *eneṃ* 'within'. Cf. **h$_1$nítios* in Goth *niþjis* 'relative', OInd *nítya-* 'one's own' (i.e., < *'within one's own group').

h$_1$én-do 'into'. [cf. *IEW* 198 (**dem-*), 311-314 (*en*); BK 432 (**in-/*en-*)]. Lat *endo* 'in', Alb *ndë* 'in', Grk *ἔνδον* 'within', Hit *anda(n)* 'in'. Widespread and old in IE.

See also Adpreps; Between. [D.Q.A.]

INDO-EUROPEAN HOMELAND

One of the longest standing and still unresolved problems, not only of Indo-European studies but also general prehistoric research, is the time and place of origin of the Indo-European language family and the nature of its dispersal. Solutions to the problem have been derived from the Bible and mythology, linguistics, physical anthropology, genetics, and archaeology.

Background to the Problem

The Indo-European languages begin to appear in the written record in the Bronze and Iron ages. The earliest attested languages are first encountered between Greece and northern India and consist of: Anatolian, the proper names of which are first attested in Akkadian trading documents of *c* 1900 BC; Indo-Aryan first emerges in northern Syria in the Mitanni kingdom by *c* 1600–1500 BC; and Greek which is known from the palace documents of the Mycenaeans, in the so-called Linear B script, from at least *c* 1300 BC. By the Iron Age (*c* 700–1 BC) we have evidence for the Italic, Messapic, Celtic and Germanic stocks in the west, the Balkan languages such as Thracian, Dacian and Illyrian, Phrygian in Anatolia and first hand evidence of Iranian. The other IE languages, other than occasional parahistorical references, do not appear in written records until the first millennium AD or later. Although this evidence allows us to see the full "historical" distribution of the Indo-European languages of Eurasia, there are substantial reasons for rejecting the notion that this distribution had been stable for many thousands of years.

First, there is some evidence for the existence of relic non-IE populations that preceded IE expansions into their territories. In the Iberian peninsula there are Iron Age inscriptions in what would appear to have been two different non-IE languages known as Tartessian and Iberian while the modern (non-IE) Basque language, situated in northern Iberia and southern France, reinforces the notion that Spain and Portugal were the subject and not the source of IE expansions. Similarly, central and northern Italy offers the remains of the Etruscan, a language that is generally, although not quite universally, regarded as a non-IE language, while fleeting inscriptions in a number of other meagerly attested languages (e.g., North Picene) have also been held to reflect the existence of relic non-IE populations in Iron Age Italy. Central Anatolia, the historical seat of the Hittites, was apparently previously occupied by the non-IE Hatti who have left some texts, primarily religious. It is generally accepted that the Hittites themselves established their state in Hattic territory (from whom they borrowed their name) where they absorbed the previous occupants along with sections of their vocabulary pertaining to both the running of the state and religion. Eastern Anatolia, territories historically occupied by the Luvians and Armenians, were previously settled by the non-IE Hurrians and their linguistic cousins, the Urartians, and so this territory is also traditionally excluded from the earliest IE-speakers, as is northern Syria where the earliest attested traces of Indo-Aryan appear among the Hurrian-speaking Mitanni. The Iranian languages emerge beyond the limits of the earliest historical records but expanded southwards into the kingdom of Elam in southern Iran whose language was clearly non-IE. Finally, the Indo-Aryan languages still share the Indian subcontinent with the non-IE Dravidian and Munda language families and their presence indicates that this enormous region was also the subject of later IE expansions. Thus, the written record tends to suggest that the IE languages spread from somewhere north of Iberia, Italy, central and eastern Anatolia, northern Mesopotamia, southern Iran and India-Pakistan.

The second line of evidence is primarily theoretical. There are finite limits to the size of area that any language may occupy without separating into different dialects and gradually unintelligible languages. Language is constantly changing and without a written standard and other artifices of modern media exchange, it is impossible for the various speakers of a

language, spread over a broad territory through time, to enjoy sufficient inter-communication that they experience the same course of linguistic change through time. This process is self evident among various IE stocks where Latin and Common Slavic of the early mediaeval period have both differentiated into the modern Romance and Slavic languages respectively. Studies of North American Indian languages suggest that the area they occupied ranged from about 530 to 660,000 sq km, averaging about 19,000 sq km, about the size of the modern state of Israel. The area occupied by a single language will be dependent on many factors such as terrain and the nature (and mobility) of the economy but the probable maximum upper range of a prehistoric language would be on the order of 250,000 to a million sq km (i.e., the size of the United Kingdom to about one and a half times the size of the Ukraine). The theoretical limits then suggest that the IE language family, at some time in its prehistoric existence, should have occupied a territory far more confined than that which is evident in its earliest historically attested distribution.

History of the Problem

Attempts to locate the earliest Indo-Europeans have existed since the discovery of the IE language family itself. Initially, the IE language family was explained by reference to the Bible where Japhet, one of the sons of Noah, was regarded as the source of all those languages neither Semitic (from Noah's son Shem) nor Hamitic (Ham) and hence Mount Ararat in Armenia, the reputed resting place of the Ark, served as a convenient homeland. The rise in interest in the early literature of the Indo-Aryans and Iranians, coupled with an exaggerated conception of their antiquity, encouraged the belief that the earliest IE peoples derived from the territory between the Caspian Sea and Bactria, part of Afghanistan, Uzbekistan and Tadzhikistan, and the cradle of the Indo-Europeans was set variously in mountainous areas such as the Hindu-Kush. Such a homeland stimulated romantic notions of how the earliest Indo-Europeans nurtured their language and culture in isolation and then burst forth from their homeland to spread their higher culture to Europe and the rest of Asia.

The consensus of an Asian homeland, although still widely accepted throughout the nineteenth century, received its first attack in 1851 when the English philologist, Roger Latham, argued on linguistic grounds that an Asian homeland was contrary to the linguistic evidence. Employing the biological model of the relationship between species and genus, Latham argued that the similarity between Indo-Aryan and Iranian, what today we recognize as the Indo-Iranian superstock, is such to suggest that it represented a more recent expansion from Europe where a much greater number of linguistic stocks (species) existed, suggesting that the original territory of the language family (genus) was Europe and not Asia. Although Latham's arguments were not widely accepted, they were augmented during the 1870s and 1880s by a variety of scholars who confused language and race and argued that the earliest Indo-Europeans, now frequently designated with the Indo-Iranian ethnonym "Aryans", must have derived from the lightest pigmented Caucasian physical type. Once the concept of the tall, long-headed, blue-eyed blond Aryan was accepted, the homeland was shifted to southern Scandinavia or northern Germany and a new consensus emerged.

By the turn of the century, this newer consensus began to crack and the various schools of thought emerged and set the course for most of the solutions of the twentieth century. Although Europe was almost universally accepted as the IE homeland, the precise location of the homeland became very much a matter of dispute. The case for northern Europe persisted and the earlier racial arguments were augmented by archaeology that associated the earliest Indo-Europeans with the Corded Ware (Battle-Ax) cultural horizon that covered northern and central Europe. A Baltic origin was further supported by linguists who found in Lithuanian the most conservative IE language. That conservatism suggested, in their opinion, that it had travelled least from the original homeland.

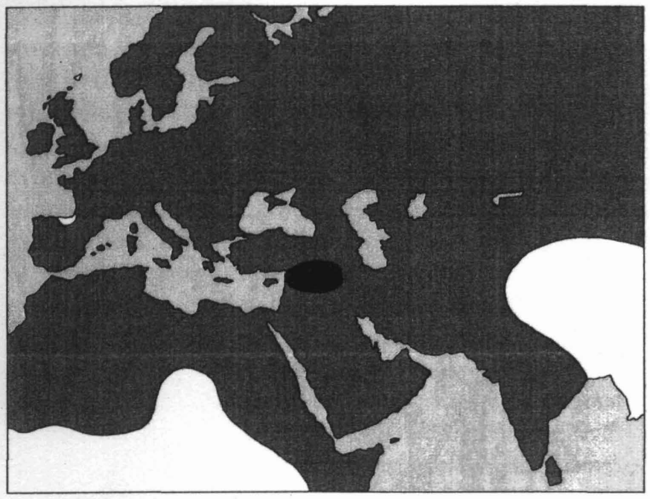
The northern homeland theories (in whatever guise) were opposed by those who became increasingly convinced that the earliest Indo-Europeans were primarily steppe pastoralists and the homeland was variously set to the Ukraine, south Russia, and occasionally as far east as Kazakhstan. Other proposed homelands were within the territory of the Linear Ware culture that spanned the Danubian drainage from the Netherlands and France in the west to the Ukraine in the east or the Neolithic cultures of south-eastern Europe, centered on the northwest corner of the Black Sea and stretching from the Balkans again to the western Ukraine. The only part of Europe universally rejected as potential homeland territory was the Atlantic periphery and the Mediterranean, the former on geographical grounds and the latter on the exclusion principle as it was the one region that possessed evidence of non-IE populations. Now even this latter principle has been partially breached by a number of solutions that seek the IE homeland in Anatolia and Armenia, either on linguistic grounds that the IE language family is closely related to language families of the Near East and southern Caucasus, or on archaeological grounds that the Indo-Europeans should be linked to the earliest spread of agriculture from Anatolia to Europe.

The path to the current indecision has hardly been straight and in addition to the various broad schools of thought, there have been numerous less widely accepted solutions. These range from proposals to set the homeland at both the North and the South poles, North Africa, Egypt, India, and as early as the Neanderthals or as late as *c* 1600 BC.

Linguistic Solutions

Solutions to the IE homeland problem have often derived from the field of linguistics and these can be categorized into five different approaches.

The first approach involves the external relationships of the IE family. Just as the stocks of a language family may be



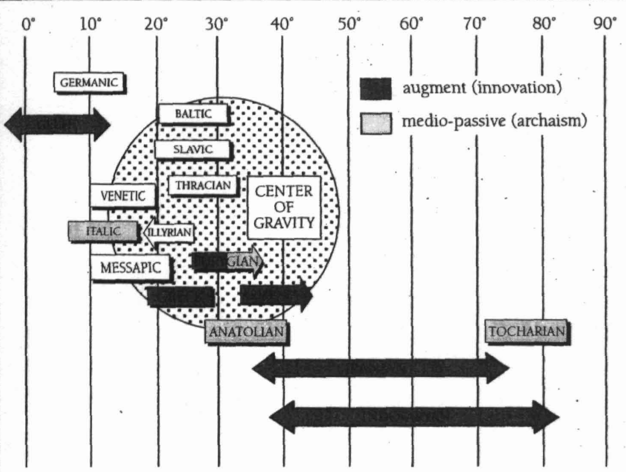
Homeland I The shaded area indicates the generalized distribution of the Nostratic language family. The darker shaded area indicates the Nostratic homeland *c* 15,000 BC according to Allan Bomhard.

more or less similar (and presumably once geographically proximate) to one another, so also one may argue that similar relationships exist between different language families. Within the area of homeland studies, these types of relationships are argued either on a one-to-one basis or as part of a larger linguistic entity that itself comprises different language families. For example, there have been frequent attempts to demonstrate that the IE languages share broad grammatical features and individual items of vocabulary with the Semitic, Kartvelian, North Caucasian and Uralic families. The putative "super-family" that would include Indo-European and these other language families is usually called "Nostratic" (derived from Lat *noster* 'our'). On such evidence the location of the homeland has been set to the Black and Caspian sea areas because of the close relationship between Proto-Indo-European and Uralic to its north or North Caucasian to its south or the proposed relationships between IE and Semitic or Kartvelian have been employed to support an IE homeland south of the Caucasus, in Anatolia, or Central Asia. The "ultimate" homeland has even been pulled so far south as Egypt in some solutions to Nostratic origins although they generally lie somewhere in southwest Asia. Since all of these other language families are at least geographically proximate to the earliest attested IE languages, the solutions are possible but the levels of similarity which are proposed between the language families fall vastly short of those found between the individual stocks of Indo-European. Lexical items that reputedly link different language families are often dismissed as undemonstrated or the products of widespread borrowing while grammatical similarities are often rejected as hopelessly vague. In short, no extra-familial relationship with Indo-European has been demonstrated at a level that would enjoy anything other than partisan support. The only exception here is that there is clear evidence for some form of substantial contact between the IE and Uralic families but these may have occurred at too late a date (i.e., pre-Proto-Indo-Iranian or later) to be relevant to the homeland problem.

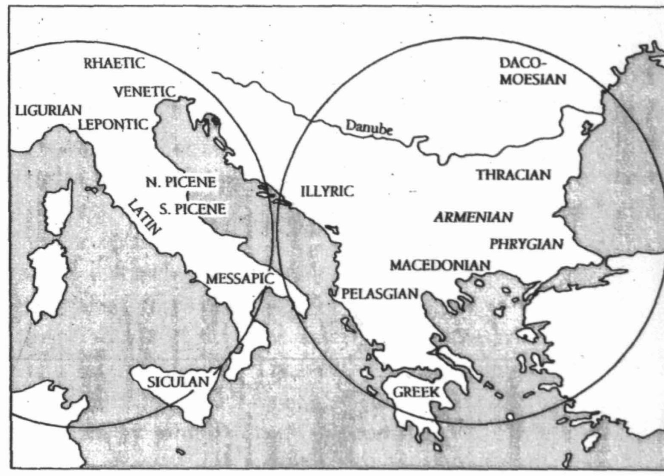
A second linguistic approach derives from an examination of the mutual relationships of the different IE stocks under the assumption that their internal configuration will reveal their original position. Theoretically, such an approach usually embraces the "center of gravity" principle wherein it is assumed that where the IE languages have existed longest, we should expect the greatest differentiation since this would be the area which has had the greatest opportunity to experience language change. The corollary of this is that those stocks who seem to be most similar to one another have probably occupied their relative positions most recently hence their lack of marked differentiation. On the basis of this, the Indo-Iranian superstock, for example, would be regarded as a relatively recent expansion into their historical seats, presumably during the Bronze Age. Possibly much the same could be said of the Celtic languages that occupied much of western and central Europe during the Iron Age. The greatest density of IE languages seems to appear between about 20 and 40 degrees longitude, the area between Poland and Albania on the west eastwards to the Dnieper to central or eastern Anatolia. This area would appear to be central and, indeed, it tends to be the area where the IE homeland is most often sought with territories to the west and east being regarded increasingly peripheral to the homeland. There are, however, several problems with such a line of argument.

First, while the Indo-Iranian superstock may be regarded as relatively late, it is not specially related to the Tocharian languages to its east which have generally been regarded as more closely associated with the languages from the supposedly central zone. Second, any attempt to employ the "center of gravity" principle should be undertaken with languages that are contemporary with one another which is virtually impossible when studying the IE languages since some languages, e.g., most of the Anatolian stock, were already extinct long before other stocks, e.g., most of the European languages, had emerged in the written record. Very often the "center of gravity" proposed by linguists for Indo-European tends to be a palimpsest of different linguistic periods, particularly for those who argue a Balkans homeland. Here we have numerous marginally attested languages to pile into the IE nucleus. In actual fact, a similar exercise could put the homeland in Italy where the nucleus of (marginally attested) IE languages and stocks is even greater. Finally, the theoretical premise of the arguments rests on the notion that the only or at least primary factor in linguistic differentiation is time, and it therefore ignores other possible reasons for language change, e.g., some would explain the heterogeneity of the Balkan languages with reference to different non-IE substrates or to the mountainous topography that impedes communication and thus hastens linguistic fragmentation.

In addition to time then, another major factor often cited



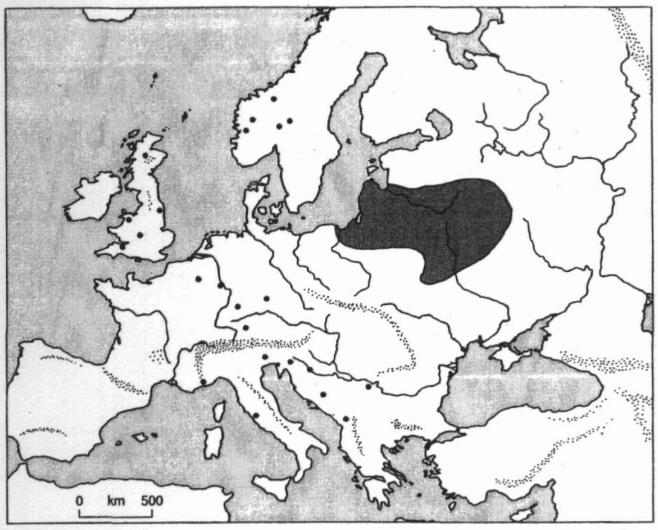
Homeland II The traditional representation of the "center of gravity" of the IE stocks has often been employed to support a homeland in the Balkans. However, it is filled with languages that are either minimally known, e.g., Venetic, Thracian, Illyrian, Messapic, or whose Balkan origins are assumed rather than demonstrated, e.g., Phrygian, Armenian.



Homeland III When compared with the Balkans, Italy offers as many ill-attested Indo-European dialects to suggest a different "center of gravity". If the "center of gravity" principle is to be credited with any validity, it must be employed using well attested languages derived from the same time depth.

in language change is the impact of foreign substrates on an expanding language. The theoretical assumption is that when a language spreads over an existing population, the native language with its presumably different phonetic and grammatical systems will influence the way its speakers articulate the new language. Conversely, where languages seem to preserve the greatest number of early IE features, this lack of change is credited to their speakers having occupied their home region the longest and involved the incorporation of few if any foreign speakers. The identification of foreign substrates is most easily accomplished when one also has documents in the foreigner's language. Hence the presence of Hattic or Hurrian vocabulary in Hittite suggests foreign contacts in central and east Anatolian while the Armenian language appears to have borrowed terms for their own native environment from Hurrian or Urartian and the occasional Dravidian loanword is uncovered in Old Indic. These examples, however, do not gain much since there is already historical documentation for the various substrate languages in these territories. The evidence of foreign lexical items, however, has also been extended to Greek and many of the other languages of Europe where even cognate forms tend to throw up reconstructions that look suspiciously non-IE because of their root structure or (unstable) root vocalism or perhaps because of the instability of the reconstruction that suggests different IE groups adopting a foreign term from a substrate and assimilating it differently from one region to the next. A classic example is the designation for 'hemp'. In the various Indo-European languages where this particular word is attested we have a variety of only partially compatible forms: Lat *cannabis*, ON *hampr*, OE *hænep* (whence NE *hemp*), NHG *hanf*, OPrus *knapios*, Lith *kanãpės*, Grk *κάνναβις*, OInd *śaṇá-*. The Latin, Germanic, and Greek forms might reflect a putative PIE **kannabis* which would be phonologically unusual in the two **a-*'s, the double **-n-* and the presence of the rare **-b-*. Baltic shows **-p-* rather than **-b-* (borrowed from Germanic?) while Old Indic shows a palatal **ḱ-* and no labial at all. (Similar words are found in non-Indo-European languages as well, e.g., Turkish *kenevir*, Karakalpak *kenep*.) In addition to primarily lexical arguments, linguists have also proposed substrate influences on the basis of broader linguistic features such as the supposed restructuring of the insular Celtic or Anatolian languages from their IE ancestor, the Germanic sound shift, the abandonment of the free accent in west European languages, etc. Finally, linguists have frequently examined the other side of the coin and sought out the least altered IE language. Most often this distinction is awarded to the Baltic stock, in particular Lithuanian which, although only attested in the last four hundred years, still reveals a remarkable conservatism which has stimulated arguments for an IE homeland in the Baltic region.

Both the logical and methodological premises of the search for foreign substrates is open to serious questions. It assumes that language change is primarily a product of linguistic expansion across foreign substrates but in actual fact language change does not respond so symmetrically to substrate effects, even when they are well known. For example, Old English behaves very much as any other early Germanic language despite the fact that it was superimposed on a native British (Celtic-speaking) population. In any case, reference to possible substrates as agents of linguistic change can only be tested when the substrate is known. When the presumed substrate has been completely replaced long before the supposedly



Homeland IV According to W. Schmidt the shaded area bears early "Indo-European" river names while the dots indicate where the such "Indo-European" names might be found elsewhere in Europe. Schmidt suggested that the concentration of early names in the Baltic region supported this region's claim to have been the Indo-European homeland.

influenced language is recorded, the very existence of the substrate, much less the kinds of influences it may have had, is completely speculative. Moreover, if the mechanisms of language change are really quite variable, then distinctions between supposedly conservative languages such as Baltic and much altered ones such as Albanian may have nothing whatsoever to do with the prior location of their linguistic ancestors. Indeed, the principle that a language will remain most archaic where it has existed longest is an apparent contradiction of the previously discussed "center of gravity" approach that would assume that such a language area would have experienced the greatest rather than least linguistic fragmentation.

Finally, some linguists have argued that the most direct testimony of the location of the IE homeland can be found in the examination of river names. Other than a few attempts to situate the earliest Indo-Europeans either between the Kura and Araxes rivers in Armenia or along the banks of the Volga because the Indo-Iranians appeared to share a common name for these rivers, most attempts to employ rivers as indicators of the homeland have been based on systematic hydronomies. The logic of the approach rests on the widely recognized phenomenon that river names often appear to be the oldest and most conservative place names on a landscape and can, therefore, be used to indicate the distribution of earlier populations. The prehistoric limits of the Balts and Celts, for example, have been assigned on such a basis. The existence of such British river names as *Thames* and *Severn* in England is a historically verifiable case in point. The largest such system within the early IE-speaking world is generally known as Old European (*Alteuropäisch*) which was proposed by Hans Krahe. His hydronymic system comprised a series of frequently recurring river names that were believed to have been established by the common linguistic ancestor of the Celtic, Italic, Germanic, Illyrian, Venetic and Baltic stocks *c* 1500 BC. This construct was then pushed eastwards by Wolfgang Schmid to also include the Slavs as far east as the Dnieper and, more importantly, it was also pushed further back in time to Proto-Indo-European. Observing that the Baltic region seemed to be both the geographical center of the distribution and the territory possessing the most early river names, Schmid proposed that the homeland should then be sought in the Baltic region.

Hydronymic arguments for the homeland are empirically quite controversial since they are based on assuming that similarity of river names in different areas must derive from a common proto-form, a statement with very little hope of verification. Moreover, much of the evidence rests on river names with a root vocalism in *a* which is widely thought to be either late, i.e., not PIE, or a marker of the assimilation of a non-IE word by IE speakers in Europe. Hydronymic evidence for the IE homeland (as opposed to the distribution of individual IE stocks) does not enjoy much currency beyond the limits of those few specialists concerned with such research.

Lexico-geographical Approach

In addition to purely linguistic approaches to resolving the homeland problem, there are also a series of arguments where linguistics is combined with some other discipline such as geography or archaeology to locate the territory of the earliest IE speakers.

Lexico-geographical analysis utilizes the reconstructed vocabulary to determine the geographical borders of the proto-language and is a technique widely applied not only in IE studies but also in determining the location of most other language families, e.g., Uralic, Semitic, Algonquin. The primary data is drawn from the semantic fields concerned with flora and fauna which tend to have restricted ranges. In the search for the IE homeland, special prominence has been accorded to the beech and salmon. The significance of the former is the famous "beech line", the eastern limit of the beech (*Fagus silvatica*) which ran from the Baltic (Kaliningrad/Königsberg) south to the northwest corner of the Black Sea (Odessa). It was widely accepted that the existence of PIE **bhāĝos* 'beech' indicated that the Indo-Europeans could not have originated east of this line. However, this argument loses much of its force when it is noted that the reconstruction of the word is confined to European stocks, that its reconstructed semantic range is not unambiguous (the cognates yield 'elm' in Slavic and 'oak' in both Albanian and Greek), and the range of the Caucasian beech (*Fagus orientalis*) is known from the Caucasus region and could therefore extend the area of a potential homeland east to the Caspian Sea. The second term **loḱs* 'salmon' was generally taken to be the sea salmon (*Salmo salar*) which might only be found in the rivers draining into

the Baltic Sea and, therefore, argued for a homeland somewhere between north Germany and Latvia. This argument has proven even less robust than the beech line since the semantic reconstruction would now seem to be the ubiquitous *Salmo trutta*, the trout, that is found widely throughout much of Eurasia, thus denying this term any utility in determining the IE homeland. Other terms that have at least enjoyed some currency in the history of the problem are words for 'eel', which also reputedly demonstrated a north European homeland (despite the fact that it is not strongly ascribed linguistically to PIE nor is it restricted geographically to the Baltic) and the 'tortoise', whose distribution was seen to exclude the far north of Europe. Attempts to employ other environmental terms are numerous but even less consequential. Example can be found in the recent attempts of T. Gamkrelidze and V. Ivanov to assert that since the PIE lexicon shared words for mountains and fast running water, the homeland was most logically set to the Caucasus mountains.

The distribution of cognate sets and shifts in the semantics of reconstructed forms have also been employed to trace the location of the homeland. The reconstruction of a PIE term for the 'birch', **bherh$_x$ĝos*, for example, which would exclude Anatolia from the homeland, has been dismissed by one linguist because it is etymologically transparent, i.e., it indicates the 'bright one', and it is a late *o*-stem, therefore, it is ascribed not to the homeland but only to those Indo-Europeans who had left their Anatolian homeland and entered Europe. On the other hand, semantic shifts in the meanings of reconstructed arboreal terms in Greek and Latin, for example, the Latin cognate for the 'birch' word denotes the 'ash', are employed to demonstrate that the Indo-Europeans originated north of the Mediterranean and when they did not find the same trees in their new environments, they reapplied the inherited names to different trees. The most extensive attempts to employ semantic shifts as a marker of the homeland appeared in the works of Wilhelm Brandenstein who sought to demonstrate that cognate sets between Indo-Iranian and the other European languages indicated that the former preserved the earlier non-agricultural meaning, e.g., OInd *ajra-* 'open field, pasture' but Lat *ager* 'cultivated field', and that the Europeans had innovated with many terms for their new, wetter and more forested environment when they had moved from a homeland in Kazakhstan.

Finally, the lexicon has been employed to provide negative evidence for the location of the homeland where, for example, the presumed absence of terms for 'oil', 'cypress', 'olive', 'ass', 'lion', etc., have been employed to show that the Indo-Europeans did not originally inhabit the Mediterranean or Anatolia while the absence of terms for such items as 'amber' have been used to exclude a Baltic homeland.

Lexico-archaeological Approach

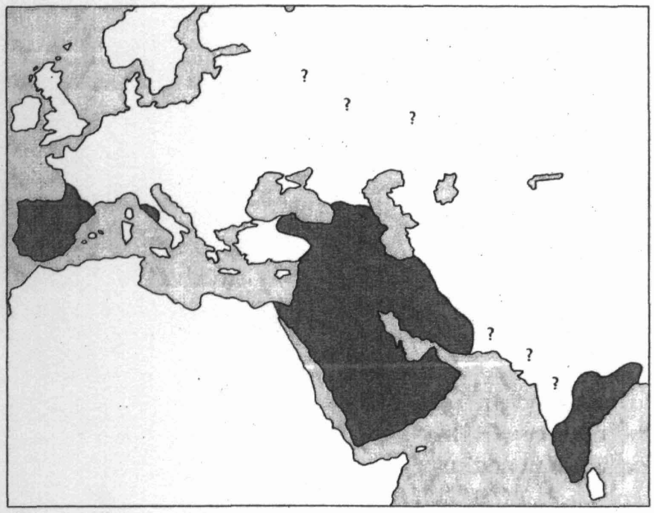
The most direct testimony for the early culture of the Indo-Europeans is the reconstructed vocabulary which provides the only direct bridge between Indo-European as a primarily linguistic concept and the hard data of archaeology. The reconstructed vocabulary for domestic animals ('sheep', 'goat', 'cattle', 'pig', 'dog') and 'grain', coupled with terms for agricultural implements, e.g., 'sickle', 'grinding stone', 'pottery', all attest an agricultural or Neolithic economy which should not have existed anywhere proximate to the Indo-European world prior to *c* 7000 BC. Other terms suggesting the use of animals for draft or secondary products such as 'wheeled vehicles', 'yoke', 'plow', 'milk', 'wool', as well as 'silver' and the ascription to the PIE community of the domestic 'horse' tend to lower the earliest date for the common IE lexicon to *c* 4000 BC. This date does not necessarily pertain to the movements of IE-speaking communities but only marks the time by which those communities, whether they had expanded or not, still showed no signs of significant linguistic separation. By *c* 2500 BC, it is widely regarded that at least some of the IE stocks had already become so significantly different from the reconstructed proto-language that items of vocabulary should be recognized as loan words rather than inherited. In the intervening period, between *c* 4000 BC and 2500 BC there is hardly an item of culture, diagnostic for the reconstruction of PIE culture, that had not expanded from one end of Eurasia to the other, regardless of where it had first appeared.

The other terms relating to the culture of the earliest Indo-Europeans are not particularly diagnostic. Concepts such as the 'house' or even some form of 'enclosure', 'village' or even 'fortified settlement' are nearly ubiquitous across the Eurasian Neolithic. The PIE arsenal of 'knife', 'spear', 'bow', and 'arrow' are similarly found over all Eurasia while IE social institutions, including the detailed evidence for its kinship system, are not credibly retrievable from the archaeological record.

Assessing Homeland Solutions

One of the major reasons for the abundance of homeland solutions (and scepticism that any of them is correct) is the absence of a commonly agreed upon set of criteria by which one can evaluate the validity of any particular solution. There are, nevertheless, some criteria that appear so widespread that they constitute an essential suite of principles. A homeland solution should be robust enough to satisfy or, at least, not violate the following basic principles.

1. *Exclusion principle.* It is widely argued that the homeland should not be set in an area where there is evidence of prior non-IE occupation. This has generally provided grounds for excluding areas such as Iberia (Tartessian, Iberian, Basque), Italy (Etruscan, ?North Picene), north-central (Hattic) and eastern (Hurrian) Anatolia, the Caucasus, almost the entire Near East (Semitic, Sumerian), southern Iran (Elamite) and much if not all of the Indian subcontinent (Dravidian, Munda). The limitations of this principle is that establishing the presence of non-IE speakers in a particular region does not necessarily establish their priority there, e.g., the current language of Anatolia is Turkic yet we know that it was previously Indo-European

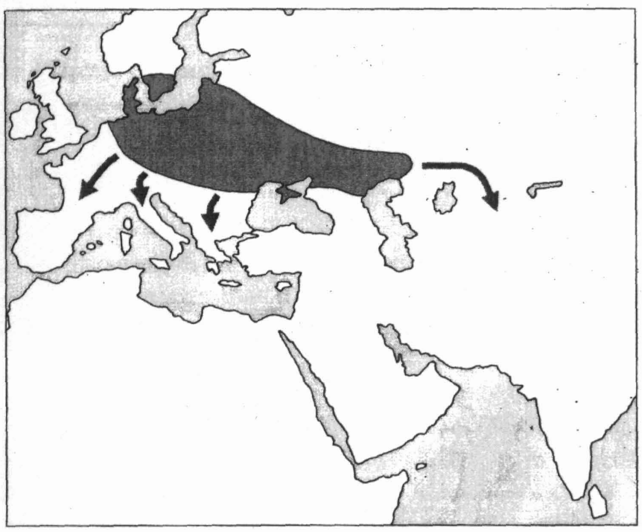


Homeland V The exclusion principle is indicated in this map of Eurasia which indicates where non-IE languages were solidly attested or presumed to underlie the expansion of the Indo-Europeans. Tartessian, Iberian and the modern Basque generally exclude Iberia. The Etruscans are commonly regarded as non-IE. North and east Anatolia was occupied by non-IE languages during the Bronze Age while to the south and east were the Hurrian, Semitic, Sumerian and Elamite languages, the last of which may be related to the Dravidian of southern India (i.e., Elamo-Dravidian). The Uralic homeland and the early dispersal of the Uralic languages (indicated by question marks) is generally set to the forest zone of either side of the Urals.

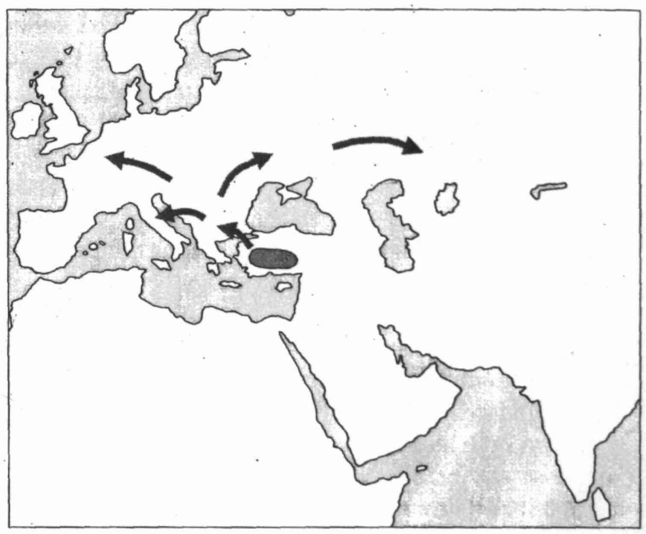
(i.e., Greek, Phrygian, and the several Anatolian languages). Generally, the antiquity of out attestations, e.g., for the Bronze Age in Anatolia and the Near East and the Iron Age in Iberia, has suggested that our evidence for non-IE languages is close enough to the date of early IE dispersals that we may assume that they were indeed "substrates" and not later intruders. This example also emphasizes that the exclusion principle is of limited application because it can only be applied where there is certain evidence of non-IE populations which, for most of Eurasia, could only be known (one way or the other) with the spread of writing in the last centuries BC or first centuries AD. It is impossible to pronounce on whether there were non-IE languages, for example, in the Baltic territory before our earliest evidence for Baltic languages.

2. *Temporal principle.* Any homeland solution should be set within the broad temporal constraints of the lexical-cultural evidence for Proto-Indo-European. The lexico-cultural evidence indicates that the Proto-Indo-European vocabulary cannot predate the Neolithic, i.e., the establishment of a settled way of life based on domesticated plants and animals and the technology associated with such a subsistence base. On the other hand, any date after *c* 2500 BC is unlikely to accommodate the degree of linguistic differentiation we already encounter in the second millennium BC. If the full range of the reconstructed vocabulary is taken into consideration, including those items of material culture that only appear at the end of the Neolithic or early Bronze Age, the date of PIE should be broadly set to the period *c* 4500 –2500 BC.
3. *Relationship principle.* The interrelationships of the IE languages suggest that their dispersal was not unidirectional but appears to involve a series of interrelationships. While the specific nature of the "branching" of the IE stocks is subject to debate, there are certain broad patterns that are generally agreed upon. These would comprise the following:
   A. Anatolian would appear to have separated early from the other IE stocks (or the reverse).
   B. A core of "Late" IE stocks formed which comprised Greek, Armenian, Indo-Iranian.
   C. A "Northwestern" group of languages formed comprising Germanic, Baltic and Slavic.
   D. The western stocks of Celtic and Italic seem to be more closely associated with the Northwestern rather than the Late IE stocks.
   E. The position of Tocharian is disputed but it does not appear to be in any particular close association with Indo-Iranian.

   These broad relationships should be accommodated within any solution to the homeland problem and description of IE dispersals.
4. *Cultural principle.* The minimum cultural and environmental picture derived from the reconstructed PIE lexicon should be accommodated within a homeland solution. In general, much of the reconstructed lexicon attests environmental or cultural features that are found broadly over much of Eurasia and are not particularly diagnostic. In some instances, where we have an animal such as the horse which is both fully reconstructible to PIE (notwithstanding debate as to whether it was wild or domestic) and appears to have had a limited distribution in the prehistoric record, it may be employed as a test of a solution's plausibility. Such tests, however, are also dependent on time, i.e., although limited in distribution at 4500 BC, the horse was found over a much broader area of Eurasia by *c* 2500 BC. Diagnostic cultural items are hence time factored, i.e., they only have meaning if one can control for time as well.
5. *Archaeological principle.* Although ignored in some purely linguistic solutions to the problem, it is difficult to accept any homeland solution that lacks some form of confirming evidence for dispersals in the archaeological record. While archaeologists will freely acknowledge that there is great uncertainty as to what constitutes evidence for population dispersals in the archaeological record (much less how that evidence should be "read" linguistically), the archaeological record does indicate trajectories that require some spatial and social mechanism of explanation and it also can evaluate to some extent the conditions of social change under which linguistic replacement may have occurred. Fragile although it may be, archaeology offers one of the



Homeland VI Baltic-Pontic homeland set to the Mesolithic.



Homeland VII The Anatolian or Neolithic "wave of advance" model seeks IE origins in Anatolia in the eighth–seventh millennium BC.

few forms of confirming evidence to purely linguistic arguments.

6. *Total distribution principle.* Probably one of the single greatest reasons for rejecting many solutions to the IE homeland problem are breaches of the total distribution principle. Any homeland solution must account for the dispersal of *all* the IE stocks. Numerous solutions proposed in the nineteenth and early twentieth centuries made vigorous defences of how Indo-Europeans spread from, for example, a Baltic homeland through the rest of Europe without providing the slightest evidence of how dispersals from this area carried IE stocks into Anatolia or Asia; conversely, the Asiatic homelands proposed in the nineteenth century and more recently by some scholars provide no explanation whatsoever how the IE stocks reached Europe. No solution is acceptable unless it explains the distribution of all IE stocks.

Current Homeland Solutions

From the great number of homeland solutions one can select four that enjoy fairly wide currency. Each differs not only with respect to *where* its sets the homeland but also *when* it initiates IE dispersals.

1. The *Baltic-Pontic* solution. This solution argues that a PIE linguistic continuum already existed during the Mesolithic, i.e., *c* 8500–5000 BC, in the area between the Baltic and Black/Caspian seas. The Neolithic cultures that emerge across this enormous region are then ancestral to their respective regional IE stocks, e.g., the northwest IE languages emerge in the TRB culture of the north European plain, while Indo-Iranian develops in the steppelands of the Ukraine and south Russia and pushes eastwards into Asia. A central tenet of this solution, at least as argued by archaeologists, is that there is a major cultural border between the steppe cultures and those of temperate Europe which provides the foundation for the split between Asiatic and European languages as this cultural border was not seriously transgressed at any period from the Neolithic onwards (except during the Iron Age where the late spread of Iranian nomads to eastern Europe is irrelevant to IE dispersals).

   The Baltic-Pontic theory cannot be evaluated according to the *exclusion principle*. It fails both the *temporal* and *cultural* principles in that there is no way that a homeland set among hunter-gatherers can explain the agricultural and specific technological vocabulary reconstructed to PIE. It can accommodate the *relationship principle* but does not fully satisfy the *archaeological* or *total distribution* principles in that, other than the movement of IE-speakers to Asia, it does not account for their spread into the Balkans or Anatolia. In sum, this solution attempts to embrace two conflicting alternative solutions, i.e., the central Europe/Balkan and the Pontic-Caspian solutions, into a single model pushed back further in time.

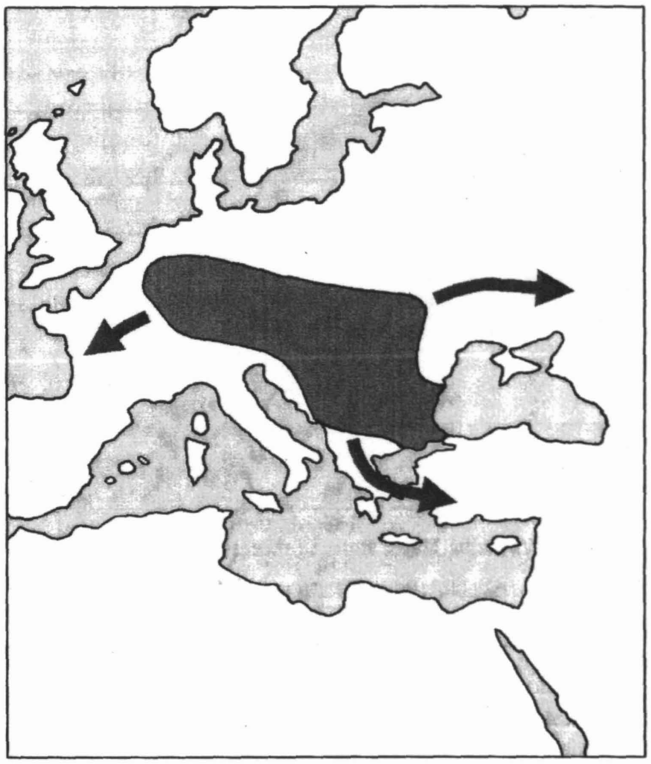
2. The *Anatolian* solution. There are several variations on an Anatolian homeland. The most widely accepted is that which seeks to associate the dispersal of the Indo-Europeans with the spread of agriculture from Anatolia into Europe. This spread, set to the *c* 7000–6500 BC, is attributed to a movement of peoples (demic diffusion) over generations as farming populations increased and moved progressively through Europe at about a rate of 1 km per year. In this way putatively IE-speaking farming colonists absorbed (culturally, genetically and linguistically) the previous occupants of Europe as they expanded in a "wave of advance". Expansion into Asia is accounted for in one of two models. One requires that the Neolithic economy spread eastwards from Anatolia into Iran and India. The

other model continues that of the first (and all other solutions) by attributing IE dispersals into Asia to populations previously occupying the steppelands of the Black and Caspian seas. In this model, these steppe-nomads are ultimately derived from the same farmers who migrated from Anatolia through the Balkans and then eastwards around the northwest shore of the Black Sea.

This solution comes very close to violating the *exclusion principle* if it does not directly do so since broad areas of central and eastern Anatolia can be attributed to non-IE populations with the emergence of written records within the region from the third millennium BC onwards. It might be emphasized that the clearest evidence for a local transition from hunting-gathering to farming occurs in the southeast of Anatolia and that it is just as plausible to assume that if any new language spread to Europe with farming it was probably not an IE language. The solution can avoid violation of the *exclusion principle* only by shifting the IE heartland to western Anatolia where linguistic evidence for non-IE Bronze Age populations is lacking.

The Anatolian solution also seems to be a bit early to accommodate the *temporal principle*. Although Anatolia does produce evidence for basic domestic plants and animals, the cultural reconstructions which appear to date to the end of the Neolithic or early Bronze Age, e.g., wheeled vehicles, plow, wool, cannot be attributed to the seventh millennium BC. With respect to the *cultural principle*, there is no evidence of the horse (domestic or otherwise) in western Anatolia or in neighboring Greece, the first region "Indo-Europeanized" according to this solution, until *c* 2000 BC. Even the *relationship principle*, which can normally be satisfied with a little cartographical legerdemain, seems to be violated as this model suggests dispersals that run Anatolia > Greece > Italy, which implicitly suggests linguistic relationships unaccommodated by any linguistic evidence. The model has been adjusted by some who have argued that population movements were limited to the Balkans and central Europe and that later Bronze and Iron Age expansions must account for the distribution of the IE languages on the European periphery.

The *archaeological principle* has been the strongest element in support of this theory in that the spread of agriculture can be followed in the archaeological record and could offer the social conditions for large-scale language replacement. Insofar as the spread to Asia is concerned, the model that ties the Asiatic Indo-Europeans to the initial spread of agriculture seems very unlikely in that the transition to agriculture in Iran and India can be explained by sources far closer than Anatolia. This model falls on just about every possible matter of assessment, e.g., the *exclusion principle* as the area between eastern Anatolia and the Indo-Iranian world was clearly occupied by non-IE language families (Hurrian, Urartian, Semitic, Sumerian, Elamite), it is no better at satisfying the *temporal* and *cultural* principles, it does not explain the relationship between the "late" IE stocks of Greek, Armenian, Indo-Iranian. The alternative model of Asiatic expansions is questionable since there is some evidence that the Pontic-Caspian region received its Neolithic economy not from the Balkans but from the Caucasus.



Homeland VIII The Balkan–central European homeland associates the earliest Indo-Europeans with the Linear Ware culture and early Neolithic cultures of southeast Europe.

Other solutions based on an Anatolian homeland are set later, i.e., *c* 5000–2000 BC. These mitigate the impact of the *temporal* and *cultural* principles but still do not resolve the problem of the *exclusion* principle. Nor is the archaeological evidence for such expansions particularly strong (in some cases it is non-existent).

3. The *Central Europe-Balkan* solution. This theory has generally been driven by recognition that the *exclusion principle* appeared to remove Anatolia and Greece (on the acceptance of the secondary evidence for a non-IE Greek substrate) from consideration and the positive fact that such a homeland fitted the "center of gravity" principle. It places the homeland in central Europe (the Linear Ware culture), including perhaps the Balkans, from the Neolithic onwards. It can be adjusted (if one accepts a late date of *c* 5000–3000 BC) to accommodate the *temporal* and *cultural principles* but suffers in terms of the *archaeological* and *total distribution* principles. It is difficult to employ this

model to explain the Indo-Europeans of Asia or Anatolia. In fact, by ignoring the relationships between Anatolia and Greece and the Balkans, it unaccountably attributes a non-IE language to the Neolithic cultures of Anatolia and Greece and yet finds grounds to assign an IE identity to their later descendants in the Balkans and central Europe.

4. The *Pontic-Caspian* solution. This is the theory that places IE dispersals in the most recent period, i.e., *c* 4500–2500 BC. It suggests that the homeland lay among mixed agricultural and increasingly mobile pastoralist tribes that emerged in the steppe and forest-steppe of the south Ukraine and south Russia and then expanded both to the east and west. The western expansion, seen as the "Kurgan model" of IE origins (the *kurgan* or tumulus is one of the typical markers of this expansion), involves the spread of populations into southeast Europe and their progressive domination or acculturation of non-IE peoples across Europe. This model meets almost all requirements except the *archaeological principle* where many would argue that the evidence for expansions from the steppe was limited (the hard evidence seems to end with the river Tisza in Hungary) and so it is very difficult to explain IE dispersals in much of Europe nor is the evidence for intrusions into either Greece or Anatolia particularly strong.

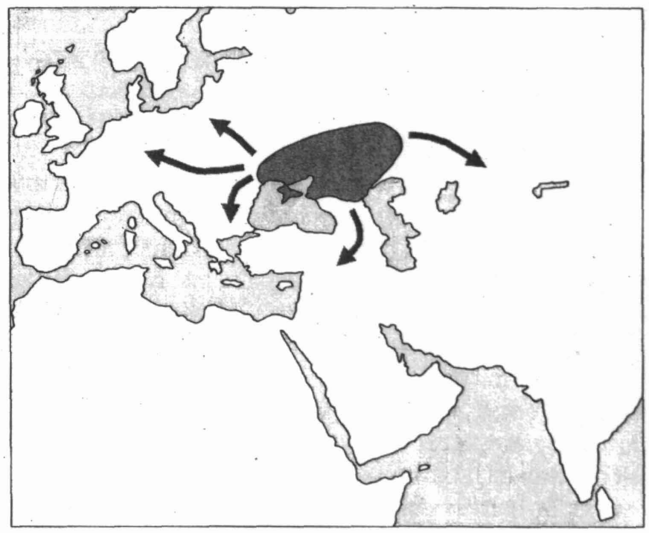
The solution to the IE homeland problem thus remains elusive despite periodic announcements to the contrary. Geographically and archaeologically, the major issue of dispute appears to occur north of the Black Sea between the rivers Dniester and Dnieper since this has traditionally formed a division between two cultural "worlds". The Baltic-Pontic solution attempts to reconcile this division by retreating back in time to the Mesolithic and drawing a circle around both areas. The Anatolian and central European solutions argue that the Indo-Europeans transgressed this Dniester-Dnieper fault line from the west while the Pontic-Caspian solution suggests that it was transgressed from the east. How this particular issue can be resolved and whether its resolution can accommodate the other assessment principles invoked here will be essential to resolving the Indo-European homeland problem.

See also ALBANIAN LANGUAGE; ANATOLIAN LANGUAGES; ARMENIAN LANGUAGE; BALTIC LANGUAGES; CELTIC LANGUAGES; DACIAN LANGUAGE; GERMANIC LANGUAGES; GREEK LANGUAGE; ILLYRIAN LANGUAGE; INDO-EUROPEAN LANGUAGES; INDO-IRANIAN LANGUAGES; ITALIC LANGUAGES; KURGAN TRADITION; MACEDONIAN LANGUAGE; MESSAPIC LANGUAGE; PHRYGIAN LANGUAGE; PHYSICAL ANTHROPOLOGY; PICENE LANGUAGES; SLAVIC LANGUAGES; SUBGROUPING; THRACIAN LANGUAGE; TIME-DEPTH; TOCHARIAN LANGUAGES; VENETIC LANGUAGE. [J.P.M.]

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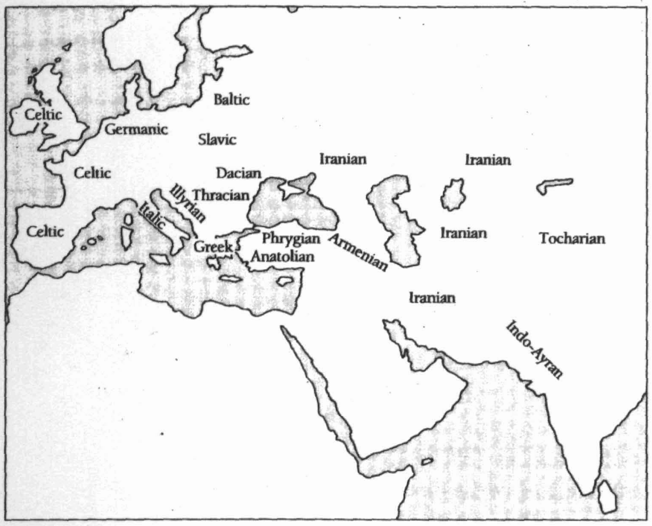
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INDO-EUROPEAN LANGUAGES

Approximately two billion people or about a half of the world's population presently speak an Indo-European language. Yet the Indo-European language family is but one of about twenty language families spoken throughout the world and is followed in numbers by the Sino-Tibetan (which includes Chinese) which numbers close to one billion speakers. Other major language families include Altaic (with Turkic and Mongolian) with 250 million speakers, Austronesian (c 180 million speakers), Afro-Asiatic (which includes the Semitic languages) with *c* 175 million speakers, etc.

The concept of a language family expresses the genetic relationship of a group of different languages that shares a common ancestor. The Indo-European family consists of about 140 languages divided into approximately twelve major 'stocks' (and a number of isolated languages) which stand in



Indo-European Generalized distribution of the major stocks of the Indo-European family (*c* 1000–100 BC).

varying degrees of relationship to one another. In some instances the relationship is so close that the languages are actually mutually intelligible, for example, Spanish and Portuguese or Norwegian and Danish while other language relationships are considerably more distant, for example, English and Polish. The similarity or dissimilarity is, to a considerable extent, dependent on their temporal and spatial distance from one another, i.e., how long their speakers (and the ancestors of their speakers) have been out of mutual contact with one another, and how distantly from one another they have been separated. Hence the relationships between the individual Scandinavian languages or the Slavic languages, which are not only mutually contiguous with one another but also began to diverge only within the last one to two thousand years, permits varying but significant degrees of mutual intelligibility. On the other hand, it is by no means easy to even recognize the affinity between languages separated distant in time such as Hittite, already extinct by about 1100 BC and Albanian, attested only from about the fifteenth century AD. Nevertheless, all languages that have been assigned to the Indo-European family are closely enough related that one can be confident that they do derive from a common ancestor, i.e., a prehistoric language or chain of mutually related dialects. This common descent, of course, does not deny that many of the various Indo-European languages or their earlier ancestral languages have also been in contact with one another and loan words abound between the various Indo-European languages.

The Indo-European Stocks

The position of the Indo-European languages from their earliest historical attestation and prior to their historically recorded colonizations extended from Ireland in the west to Chinese Turkestan and India in the east. Most of the IE languages may be ascribed to the following major stocks, summarily described here from west to east.

Celtic

During the Iron Age the Celts were not only the westernmost IE-speakers but they were also attested over most of southern and central Europe and even parts of Asia Minor. They may be traced in the historical record of the classical world, sacking Rome in 390 BC and Delphi in 279 BC. These latter invaders settled in present day Turkey in 270 BC and became the Galatians to whom Paul addressed an epistle. The Celtic languages are traditionally divided into two groups—Continental and Insular Celtic. Less than one hundred inscriptions, mostly from France, survive to record the Gaulish language while Lepontic, a sparsely attested language of northern Italy, has also proved to be Celtic. The third main branch of Continental Celtic is variously known as Hispano-Celtic or Celt-Iberian and is recorded in inscriptions in the Iberian peninsula.

The surviving Celtic languages all belong to the Insular Celtic group and derive from ancient languages spoken in the British Isles. The Goidelic division consists of Archaic Irish, known from *ogham* inscriptions from about the fourth century AD, and Old Irish, known from at least the seventh century AD, and its more recent derivatives, Middle Irish, (New) Irish, (Scots) Gaelic and the recently extinct Manx. The Celtic language(s) of early Britain provides the ancestor of later Old Welsh, Middle Welsh and (New) Welsh as well as the now extinct Cornish, primarily known from late medieval dramas. The most widely spoken Celtic language is Breton, which was transplanted to northwest France by British settlers who may have encountered remnant Gaulish speakers on the continent.

Italic

The earliest Italic inscriptions date to the sixth century BC and indicate the existence of two sub-groups, Latino-Faliscan and Osco-Umbrian. Oscan was the native language of Pompeii and much of Campania. Umbrian is best known from a long series of ritual texts, the Iguvine Tables. Closely related to Osco-Umbrian are the Sabine dialects of Paelignian, Marrucinian and Vestinian.

The other major group consists of Faliscan and a series of archaic inscriptions such as those in Praenestine and Lanuvian as well as Latin, the language that ultimately came to dominate in Italy. As the official language of the Roman Empire, Latin was the only language of the Italic group to survive post-imperial times, becoming a *lingua franca* of the west European Middle Ages. From spoken Vulgar or Common Latin derive the modern Romance languages of Portuguese, Spanish, Catalan (all spoken in Iberia), French, Provençal (both spoken in France), Romansch (spoken in Switzerland), Sardinian, Italian, Ladin, Friulian (all spoken in Italy), and Romanian. Dalmatian, now extinct, was formerly spoken on the east Adriatic coast.

A possible third sub-group of Italic, if not an independent Indo-European "branch", is Venetic, recorded in a series of inscriptions from the Iron Age in the Veneto. Other Indo-European languages recorded in ancient Italy include Messapic, spoken in the sixth to first centuries BC in Apulia and Calabria and possibly closely related to the so-called Illyrian language of the east Adriatic. South Picene or South East Italic and the four Sicel inscriptions from Sicily are thought to be related in some fashion to Italic.

Germanic

The earliest attested Germanic languages derive from the East Germanic group. Extensive documents first appear in the fourth century AD in the form of a translation of the Gospels into a Visigothic dialect, usually called Gothic for short. Proper names from other Gothic tribes as well as the Vandals, Burgundians and other such tribes, a few runic inscriptions, a list of rune-names preserved in a later manuscript and a short list of Crimean Gothic words made in the sixteenth century before its last speakers died out complete the roster of East Germanic material.

North Germanic material consists of early Norse runic inscriptions, a considerable body of Old Norse literature, especially in its western or Icelandic dialect. The modern descendant of the more western variety of Old Norse are (New) Icelandic, Faroese, Nørn (once spoken on the Shetland and Orkney islands off of northern Scotland), and Norwegian. The eastern subdivision of North Germanic consists of Swedish, Gutnish and Danish.

Western or Maritime Germanic includes Old English and its later descendants Middle English and (New) English. Also in this group are Old Frisian with its modern descendant, Frisian, which was first continuously recorded in the late thirteenth century. The Old Saxon of the ninth century is the ancestor of the modern northern or Low German *patois*. The Continental West Germanic languages include Old High German, attested from the eighth century, Middle High German and (New) High German. High Germanic influence on other West Germanic languages such as Old Low Franconian and its later survivals—Dutch, Flemish and Afrikaans—obscure their relationship with Maritime Germanic.

Baltic

The Baltic languages Lithuanian and Latvian (or Lettish) are the sole surviving members of the eastern subgroup of a family that once stretched as far east as Moscow. The earliest Lithuanian text dates from 1503 with a catechism from 1547; Latvian texts begin somewhat later at 1586. Among the extinct East Baltic languages, recorded only in onomastic sources, are Curonian, Selonian and Zemgalian. A Western Baltic subgroup is reflected most extensively in Old Prussian which was first recorded in the fifteenth century and ceased to be spoken in the eighteenth, and Yotvingian, for which our sole evidence, apart from onomastics, may be a recently discovered wordlist with Polish glosses.

Slavic

Slavic names first appear in Byzantine records a century after the collapse of Attila's empire as sixth-century Slavic tribes moved south to fill the political vacuum left in central Europe. By the time Slavic texts were first committed to writing in the ninth century (the traditional date of the mission of Saints Cyril and Methodius who converted the Slavs and devised an earlier form of the "Cyrillic" alphabet is 863), dialect diversity was already evident. Old Church Slavonic, the liturgical language of the Eastern Orthodox Church, is based on the Thessalonican dialect of Old Macedonian, one of the South Slavic languages. Modern South Slavic languages are Macedonian and the closely related Bulgarian, Serbo-Croatian and Slovenian. The present East Slavic languages consist of Russian, Belorussian (or White Russian) and Ukrainian. The Western Slavic languages are the closely related Moravian dialects of Czech and Slovak, the Pomeranian dialects of Kashubian, Slovincian and the extinct Polabian, and Upper Sorbian, Lower Sorbian (or Wendish or Lusatian) and Polish.

Albanian

The first short text in Albanian dates from 1462 and during the following centuries sporadic documentation occurs, generally in the northern or Gheg dialect. A continuous literary tradition was not established until the nineteenth century and the modern standard is based on the southern dialect, Tosk. Albanian has a considerable number of loans from Turkish, Slavic and Latin and a few from classical Greek. The ancient language of modern Albania was Illyrian, attested only in glosses and proper names although quite possibly reflected also in the Messapic inscriptions of southern Italy. To the east of the Illyrians one finds Thracian and Dacian. The first is known from only a few inscriptions, glosses and proper names while even less is known of Dacian, the language of ancient Romania.

Greek

Greek has been documented since at least the thirteenth century BC in the form of Linear B, attested in territories controlled by the ancient Mycenaeans. Greek is traditionally divided into two major divisions. The eastern dialects consist of Attic-Ionic, the most important dialectal group in Greek antiquity, Aeolic, as well as the more archaic appearing Arcadian and Cypriot; possibly the obscure Pamphylian may also belong here.

The western group is more diverse and comprises nine dialects. In the northwest is Phocian, the language of the Delphic oracle, Locrian, Elean and a northwest *koinė* or *lingua franca* used by the Aetolian League. Doric is a diverse group of eight local dialects that include Laconian, the language of ancient Sparta, Messenian, Megarian, Corinthian, Argolic, Rhodian, Coan, Theran and Cretan.

The Tsakonian dialect of Modern Greek has words derived from ancient Laconian; otherwise, Modern Greek or Dhimotiki continues the triumph of Attic over its competitors.

However, in earlier times the dialects had considerable value in literature and there are numerous unassignable dialect words, especially recorded in the compendium of the Greek lexicon compiled by Hesychius of Alexandria in the fifth century AD.

Armenian

Classical Armenian reflects biblical religious literature traditionally ascribed to the fifth but more probably dating from the ninth century AD. Situated between several of the ancient civilizations, the Armenian vocabulary has been extensively affected by Greek, Iranian, Caucasian and Semitic languages.

Phrygian

The ancient language of Phrygia, although situated in central Anatolia, is not closely related to the Anatolian stock and represents apparently a separate subgroup of Indo-European. From the eighth to the third century BC we have about 240 Old Phrygian inscriptions while about a hundred New Phrygian inscriptions belong to the first century AD. The latter texts, which are brief and repetitive, seem to reflect the funerary use of a dying language. Another language sometimes and without any really solid linguistic evidence presumed to be related to Phrygian is Mysian, a language attested in a single seven-line inscription dating from the third or fourth century BC.

Anatolian

The Anatolian languages of ancient Turkey provide the oldest traces of the Indo-European family. Hittite and Palaic texts written in cuneiform provide the *terminus a quo* in the eighteenth century BC for a documentation that extends to the fourth century BC with alphabetic inscriptions in Lycian and Lydian. Hittite, textually the most important of these languages, stands somewhat apart from the others. After the fall of the Hittite Empire at the beginning of the twelfth century BC, records in this official court language abruptly cease. In the south, the popular idioms, Luvian and especially its near relative—perhaps best regarded as just an eastern dialect—Hieroglyphic Luvian, formerly called Hieroglyphic Hittite before decipherment confirmed its closer relation to Luvian, continued for several centuries as spoken and written languages of the Neo-Hittite kingdoms. A more divergent western variant, Lycian, is recorded in about 150 inscriptions and another fifty coin legends in a Greek-derived alphabet of the Hellenistic era. Several of these inscriptions contain passages in a different, perhaps more archaic dialect, Lycian B or Milyan. Palaic, possibly already an extinct liturgical language, preserved only in a handful of religious texts among the Hittite archives at Bogazköy, shows some similarities with both Luvian and Hittite. Unlike Lycian, Lydian, known from more than fifty inscriptions, has no clear antecedent or relative in the earlier cuneiform texts, and its closer relations within the Anatolian stock are unclear. Certain languages such as Cappadocian, Cilician, Isaurian, Lycaonian, Paphlagonian, Pisidian and Sidetic are known from proper names or glosses recorded in antiquity or, in the case of Carian, nearly seventy-six inscriptions, and they have been suspected of being members of the Anatolian stock, but such interpretation is still debatable.

Indo-Iranian

Indo-Iranian forms a superstock consisting of three sub-stocks: Indic, Iranian and Nūristāni, of which only the first two were recorded in antiquity. Indic is sometimes called Indo-Aryan to distinguish it from the non-Indo-European languages of India. The earliest Old Indic languages are frequently distinguished as Vedic Sanskrit, the language of the earliest ritual texts, and Classical Sanskrit. These texts were not recorded during their period of composition and were transmitted orally until the Middle Indic period. Other than traces of Indo-Aryan terms and names in Hittite and Mitanni documents, the earliest written evidence for Indic dates from the reign of the emperor Aśoka (269–232 BC). During the later Middle Indic period emerged the Prakrits, the most significant of which was Pali, the language of the Buddhist scriptures. The other early Prakrit languages include Mahārāṣṭri, Ardhmagadhi, Magadhi, Śaurasenī, Jaugaḍa, Dhauli, Kalśi, Girna, Mansehra and Shahbazjarhi.

The modern languages of the Indian subcontinent derive largely from the earlier Prakrit languages. In the northwest are found Panjabi, Lahnda, Sindhi and the Pahari group, spoken near the Himalayas, which includes Nepali in the east, Kumauni and Garhwali in the center and western Pahari. Romany, the language of the Gypsies who migrated into Europe during the Middle Ages, appears to be a northwest Indic dialect as well. The central division is the largest and consists of a number of closely related dialects such as Hindi-Urdu, Bagheli, Awadhi, Chattisgarhi, Braj-Bhasa, and Bundeli, as well as the Bihari group, of which Māgadhī, Maithili and Bhojpuri are representative. Also, members of the central division are the Rajasthani group, consisting of Mewati, Ahirwati, Harauti, Malvi, Nimadi, Marwari and Rajasthani; to this also belongs the Bhili group as well as Khandeshi and Tharu. The southwest division consists of Gujarati, Marathi, Konkani, Sinhalese and Maldivian. The eastern division consists of Assamese, Bengali and Oriya. The Dardic languages did not derive from a Prakrit but seem to have evolved from an Old Indic dialect. The eastern Dardic languages consist of Kashmiri, the only Dardic language with a literary history, the Shiṇa group consisting of Dumākī, Phalura and Shiṇa proper and the Kohistani group—Baškarīk, Maiyā, Tirāhī, Tōrwalī and Woṭapūrī-Kaṭarqalai. The western division consists of Damelī, Gawarbati, Shumashti and Piśai. The Chitral languages, Kalāša and Khowār, form the central division.

Isolated in the Hindu-Kush are the Nūristāni (or Kāfirī) languages—Kati, Prasun, Waigali and Ashkun and their dialects—which constitute the smallest of the sub-stocks of

Indo-Iranian. They derive from an ancient Indo-Iranian language or chain of dialects that was distinct from both Indo-Aryan and Iranian.

The Iranian sub-stock was already divided into three divisions when the first written monuments of Iranian, the sixth century inscriptions of Darius the Great, were carved into the face of a cliff at Behistun. The Old Persian of the Achaemenian dynasty is the earliest representative of the southwestern division. The inscriptions also reveal occasional words derived from Median, a northwest Iranian dialect. In the Middle Iranian period, this or a similar northwest dialect formed the basis of the Arsacid Pahlavi of the Arsacid dynasty (250 BC–226 AD). During the Sassanian period (226–652 AD), the southwest dialect re-emerged as Sassanian Pahlavi and Middle Persian. The northeastern division is represented by the *Avesta*, liturgical texts originally transmitted orally like the Indic vedas. The *Avesta* is written in two slightly divergent dialects, one of which is Gāthic, the language of the prophet Zaraθuštra (or Zoroaster) who is reputed to have composed the hymns that reflect the earliest evidence of the Iranian language. The greater part of the *Avesta*, usually termed Younger Avestan or simply Avestan, is linguistically comparable to the earliest Old Persian inscriptions. The northeastern languages of the Middle Iranian period are Sogdian, Khorasmian, Khotanese Saka and Tumshuqese. The latter two languages are thought to be related to that of the Iron Age Scythians of the Old Iranian period.

Of the modern northeast dialects, Yaghnobi seems to be most akin to Sogdian. The Pamir dialects consist of Shughni, Yazghulami, and the extinct Wanchi. Pashto, the chief language of Afghanistan, is a northeastern Iranian language as are also: Wakhi, of which Zebaki is perhaps a dialect, the Ishkashimi-Sanglechi group, Munji, the now apparently extinct Sargulami and Yidgha, and perhaps Pakhpo for which there is no reliable data. Finally, the most displaced of the northeastern languages is Ossetic, thought to be the descendant of the language of the Alans of classical history, which is found now in the Caucasus, the territory otherwise occupied by northwestern languages.

The northwestern Iranian languages of the Caucasus include the Caspian dialects of Mazandarani, Gilaki, Talishi, Zaza, Harzan, Galinqaya, Gorani and Kurdish. The tribal movements that propelled Ossetic into the Caucasus also help explain the appearance of northwestern dialects such as Baluchi in southeast Iran and Pakistan and Parachi and Ormuri in Afghanistan. Some confusion reigns over the dialectal placement of some Tati dialects (labeled northwestern but said to resemble Persian to the southwest), Semnani, Bashkard and Lur dialects which have been variously labeled northwestern or southwestern.

The main southwestern dialect is Farsi or Persian which is called Tajik in the former Soviet Union where it is also indigenous. Southwestern dialects closely related to Persian include Somghuni, Papuni, Masarmi, Buringuni and perhaps Luristani. Kumzari is spoken across the Persian Gulf.

Tocharian

The Tocharian group first became known to European scholarship when fragments of Buddhist texts from Xinjiang (Chinese Turkestan) began appearing in the 1890s. It was not until the 1906–08 expedition of Sir Aurel Stein that these texts could be placed in their proper context and dated between the sixth and eighth centuries AD. This group derives its name from the (probably) erroneous notion that they were the same people the Greeks called 'Tókharoi', who in fact were more likely to have been an Iranian-speaking tribe.

Two Tocharian languages are recognized. Tocharian A, a liturgical language employed in the oases of Turfan and Qarasahr, the territory of the ancient kingdom of Agni, is also known as Turfanian or Agnean. The western language, Tocharian B, was employed in the kingdom of Kuci and is sometimes known as Kuchean.

See also ALBANIAN LANGUAGE; ANATOLIAN LANGUAGES; ARMENIAN LANGUAGE; BALTIC LANGUAGES; CELTIC LANGUAGES; DACIAN LANGUAGE; GERMANIC LANGUAGES; GREEK LANGUAGE; ILLYRIAN LANGUAGE; INDO-EUROPEAN HOMELAND; INDO-IRANIAN LANGUAGES; ITALIC LANGUAGES; MESSAPIC LANGUAGE; PICENE LANGUAGES; PROTO-INDO-EUROPEAN; RECONSTRUCTION; SCHLEICHER'S TALE; SLAVIC LANGUAGES; THRACIAN LANGUAGE; TOCHARIAN LANGUAGES; VENETIC LANGUAGE. [M.E.H.].

Further Readings

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INDO-IRANIAN LANGUAGES

The Indo-Iranian branch is the only undisputed super-stock of IE languages, i.e., a stock comprised of two or more major language divisions. The divisions of the Indo-Iranian stock consist of Indo-Aryan, Iranian and a much smaller group of languages, Nūristāni, whose position as a separate division is agreed by many although perhaps not all linguists. The Indo-Iranian languages also have the largest territorial distribution and were spoken from north of the Black Sea eastwards to the Yenisei and south through Iran, Afghanistan, the western borders of China and the northern two-thirds of the Indian sub-continent. In the historical period, Iranian nomads of the Ukrainian steppe pushed into the Danubian basin: tribes belonging to the Sarmatian confederation settled in Hungary until they were absorbed by expanding German and Slavic tribes (some Sarmatians were even posted to Britain as part of the Roman army). The Alans, another east Iranian-speaking people, allied themselves with the Huns and crossed the entire length of Europe to Iberia and then moved on to settle in north Africa. A probable remnant group of the Alans, the Ossetes, is to be found in the central Caucasus.

The Indo-Iranian languages clearly derive from an ancestor intermediate between Proto-Indo-European and the earliest individual Iranian and Indo-Aryan languages, i.e., one can

reconstruct a Proto-Indo-Iranian language. The close similarity of the earliest attested Indo-Iranian languages is clearly evident if we extract several lines from the Avestan hymn to the Iranian god Miθra, and provide it with an interlinear translation in the language of the Ṛgveda of ancient India (and the reconstructed Proto-Indo-Iranian forms).

Yašt 10.6

Avestan	*təm amavantəm yazatəm*
Old Indic	*tám ámavantam yajatám*
Proto-Indo-Iranian	**tám ámavantam yaȷ́atám*
	This powerful deity
Avestan	*sūrəm dāmōhu səvištəm*
Old Indic	*śū́ram dhā́masu śáviṣṭham*
Proto-Indo-Iranian	**ćū́ram dhā́masu ćávištham*
	strong, among the living the strongest
Avestan	*miθrəm yazāi zaoθrābyō*
Old Indic	*mitrám yajāi hótrābhyaḥ*
Proto-Indo-Iranian	**mitrám yaȷ́āi ȷ́hấutrābhyas*
	Miθra, I honor with libations

Our ability to reconstruct a Proto-Indo-Iranian intermediate between Proto-Indo-European on the one hand and Proto-Indic and Proto-Iranian is also supported by the self-designation, **āryo-* (OInd *ā́rya-*, Av *airya-*, OPers *ariya-*) 'Aryan', shared by both Indic and Iranian. The old genitive plural **aryānām* is preserved on the Iranian side in the name of the Alans, in *Iron*, the self-designation of the eastern Ossetes, and most importantly in *Irān* 'Iran'. Linguists remark that the similarity between Iranian and Indic is not only one of grammar and general lexicon but even the references to the means of ritual offerings in the two languages derive from a common ancestor which speaks for a common cultural background. This common background is also reflected in the sharing of names for rivers and common deities (albeit some of the earlier deities common to both were demonized in the later religious reform of Zaraθuštra).

Indo-Iranian Phonology and Grammar

From a phonological point of view the Indo-Iranian languages, at least in their earliest forms, are relatively conservative. Indic, alone of the various IE stocks, preserves the three-way distinction in manner of the PIE stops in the way they are traditionally reconstructed: voiceless (i.e., **k*), voiced (**g*), and voiced aspirate (**gh*). In Iranian the latter two series have become merged as simple voiced stops.

Indo-Iranian is innovative in four important ways. First, Indo-Iranian are satəm languages, meaning that the dorso-palatals of PIE (e.g., **k̑*) appear as affricates or continuants (OInd *ś*, Av *s*) while the labio-velars (e.g., **k*^{w}) have lost all trace of their labialization (Old Indic and Avestan *k*). Secondly, Indo-Iranian has merged PIE **e*, **a*, and **o* (and **ē*, **ā*, and **ō*) as *a* (and *ā*). The merger had tremendous morphological impact, in that it abolished the frequently used distinction between **e* and **o*, e.g., the present tense of a verb might have **e* while the perfect **o* (since PIE **o* was lengthened in an open syllable before a resonant [*r*, *l*, *n*, *m*], at times the PIE distinction between **e* and **o* was preserved as Indo-Iranian *a* vs. *ā*). It should be noted that this merger occurred only after original (labio-)velars had been palatalized before original front vowels. PIE **k*^{w}*e* gives OInd *ca* 'and' while **k*^{w}*ós* gives *káḥ* 'who'. It was this "law of palatals" that convinced nineteenth century Indo-Europeanists that the uniform *a* of Indo-Iranian was actually an innovation vis-à-vis the *e*, *a*, and *o* found in Greek and Latin. Thirdly, there has been a strong tendency to merge **r* and **l*. The merger is complete (as *r*) in Iranian (*l*'s found in later Iranian have a different origin). In Old Indic the situation is more complex. There appear to have been western dialects that merged the two as *r*, just as in Iranian, and eastern dialects that merged them as *l*, while central dialects preserved the distinction, at least in part. Finally, Indo-Iranian shares with Baltic and Slavic the so-called *ruki*-rule whereby PIE **s* was retracted after **i*, **u*, **k*, and **r*. Thus PIE ***h_3*ók̑*^{w}*s(i)* (one form of the word for) 'eye' appears as OInd *ákṣi* 'eye' and Av *aši* 'eye'. Separate from Iranian, Indic has developed a series of retroflexed consonants, *ṭ*, *ḍ*, *ṣ*, *ṇ*. The second *ṣ* comes from PIE **s* when the latter has undergone the *ruki*-rule. The others come from borrowings or other internal developments (e.g., PIE **nisdós* gives OInd *nīḍá-* 'nest'). Iranian on the other hand is characterized by the change of stops to continuants before resonants (e.g., PIE **kruh*$_{a}$*rós* 'bloody' gives Av *xrūra-* 'bloody').

As in all branches save Anatolian and Albanian, the PIE laryngeals have been lost as separate phonemes in Indo-Iranian. However, that loss would appear to have been very late and both Old Indic and Avestan preserve a trace of their presence in uncontracted vowels (i.e., **-ah*$_{x}$*a-* remains as *-a-a-* rather than as **-ā-*). Between consonants Old Indic almost always vocalizes the laryngeals as *-i-* while in Iranian they are vocalized as *-i-* only in initial and final syllables. The choice of *-i-* as the vocalization of laryngeals sets Indo-Iranian apart from other IE stocks where the vocalization is *-a-* (though in Greek *-e-*, *-a-*, or *-o-* depending on the laryngeal). The results of these changes (and others of a less sweeping nature) can be seen in the accompanying Indo-Iranian phonological table.

The Nūristāni languages stand a bit apart from both Indic and Iranian in their phonological development. They share with Iranian (and Baltic, Slavic, and Anatolian) the merger of the voiced and voiced aspirates, series which in Indic remain independent. However, they preserve PIE **k̑* as an affricate, unlike both Indic and Iranian where it has become a continuant (OInd *dáśa* 'ten' and Av *dasa* 'ten' compared to Kati *duts* 'ten'). There is also some evidence that they did not undergo the *ruki*-rule change (e.g., Kati *məsə* 'mouse', cf. OInd *mūṣ-* 'mouse'). All this may suggest that the Nūristāni group was originally peripheral to the rest of Indo-Iranian, presumably because the speakers of Proto-Nūristāni were already in the mountains of northeastern Afghanistan where

Proto-Indo-European and Indo-Iranian Phonological Correspondences

PIE		OInd	Av	PIE	OInd	Av
*p	>	p	p	*p̥h_atēr 'father'	pitā́ 'father'	pitar- 'father'
*b	>	b	b	*bel- 'strong'	bálam 'strength'	-
*bh	>	bh	b	*bhréh_atēr 'brother'	bhrā́tār- 'brother'	brātar- 'brother'
*t	>	t	t	*tu$h_x$óm 'thou'	tuvám 'thou'	tvəm 'thou'
*d	>	d	d	*doru 'wood'	dā́ru 'wood'	dāuru 'wood'
*dh	>	dh	d	*dho$h_x$neh_a- 'grain'	dhānā́- 'grain'	dāna- 'grain'
*k̂	>	ś	s	*dék̂m̥ 'ten'	dáśa 'ten'	dasa 'ten'
*ĝ	>	j	z	*ĝónu 'knee'	jā́nu 'knee'	zānu- 'knee'
*ĝh	>	h	z	*ĝhimós 'cold'	himá- 'cold, frost'	zəmaka- 'winterstorm'
*k	>	k ~ c	x~ č	*kru$h_a$rós 'bloody'	krūrá- 'bloody'	xrūra- 'bloody'
				*téket 'may he run'	-	tačat̰ 'may he run'
*g	>	g ~ j	g ~ z	*$h_a$éuges- 'strength'	ójas- 'strength'	aoǰah strength'
				*$h_a$ugrós 'strong'	ugrá- 'strong'	ugra- 'strong'
*gh	>	g ~ h	g ~ z	*dl̥$h_x$ghós 'long'	dīrghá- 'long'	darəga- 'long'
				*dle$h_x$ghistos 'longest'	-	draǰišta- 'longest'
*k^w	>	k ~ c	k ~ č	*k^wós 'who'	káḥ 'who'	kō 'who'
				*k^we 'and'	ca 'and'	ča 'and'
*g^w	>	g ~ j	g ~ ǰ	*g^wou- 'cow'	gav- 'cow'	gau- 'cow'
				*g^wi$h_3$uós 'alive'	jīvá- 'alive'	OPer ǰīva- 'living'
*g^wh	>	gh ~ h	g ~ ǰ	*g^whnénti 'strike' (pl.)	ghnánti 'strike' (pl.)	–
				*g^whénti 'strikes'	hánti 'strikes'	ǰainti 'strikes'
*s	>	s	h	*septm̥ 'seven'	saptá 'seven'	hapta 'seven'
*i̯	>	y	y	*i̯ugóm 'yoke'	yugám 'yoke'	yuga- 'yoke'
*u̯	>	v	v	*u̯éĝheti 'drives, rides'	váhati 'drives'	vazaiti 'travels'
*m	>	m	m	*méh_atēr 'mother'	mātár- 'mother'	mātar- 'mother'
*n	>	n	n	*nos 'us'	nas 'us'	nō 'us'
*l	>	l, r	r	*linék^{w}ti 'leaves'	riṇákti 'leaves'	irinaxti 'releases'
*r	>	r	r	*kru$h_a$rós 'bloody'	krūrá- 'bloody'	xrūra- 'bloody'
*n̥	>	a	a	*n̥- 'un-'	a- 'un-'	a- 'un'
*m̥	>	a	a	*k̂m̥tóm 'hundred'	śatám 'hundred'	satəm 'hundred'
*l̥	>	r̥	ərər	*u̯l̥k^{w}os 'wolf'	vr̥ka- 'wolf'	vəhrka- 'wolf'
*r̥	>	r̥	ərər	*k̂r̥d- 'heart'	hŕ̥d- 'heart'	zərəd- 'heart'
*i	>	i	i	*linék^{w}ti 'leaves'	riṇákti 'leaves'	irinaxti 'releases'
*e	>	a	a	*dék̂m̥ 'ten'	dáśa 'ten'	dasa 'ten'
*ē	>	ā	ā	*h_anḗr 'man'	nā 'man'	nā 'man'
*a	>	a	a	*h_aéĝeti 'drives'	ájati 'drives'	azaiti 'drives'
*ā	>	ā	ā	*méh_atēr 'mother'	mātā́ 'mother'	mātar- 'mother'
*o	>	a ~ ā	a ~ ā	*ĝómbhos 'tooth, peg'	jámbha- 'tooth, tusk'	–
				*ĝónu 'knee'	jānu 'knee'	zānu- 'knee'
*ō	>	ā	ā	*dho$h_x$neh_a- 'grain'	dhānā́- 'grain'	dāna- 'grain'
*u	>	u	u	*i̯ugóm 'yoke'	yugám 'yoke'	yuga- 'yoke'
*ū	>	ū	ū	*mū́s 'mouse'	mū́ṣ- 'mouse'	NPers mūs 'mouse'
*h_1	>	ø	ø	*$h_1$ésti 'is'	ásti 'is'	asti 'is'
*h_2	>	ø	ø	*h_2r̥tk̂os 'bear'	ŕ̥kṣa- 'bear'	arəša- 'bear'
*h_3	>	ø	ø	*$h_3$ók^{w}s(i) 'eye'	ákṣi 'eye'	aši 'eye'
*h_4	>	ø	ø	*$h_4$órĝhis 'testicle'	–	ərəzi- 'testicle'

their descendants are found (at a time when the Proto-Indic speakers were still somewhere on the Iranian Plateau), and thus not subject to all the innovations that otherwise affected Indo-Iranian. Their current, geographically central, position with Indo-Iranian results from their being "outflanked" by the Indo-Aryan speakers who moved around them into the Punjab and ultimately throughout northern and central India.

The Indo-Iranian languages are also conservative representatives, at least in their earliest attestations, of the PIE morphological system. Old Indic and Avestan both preserve all eight of the PIE nominal and adjectival cases (vocative, nominative, accusative, genitive, dative, locative, ablative, and instrumental) as well as the three numbers (singular, dual, and plural) and three genders (masculine, feminine, and neuter) reconstructed for Proto-Indo-European. The verb is equally elaborate, having three persons (first, second, and third), three numbers (singular, dual, plural), three aspects or ways which the speaker can "view" an action ("present", aorist, and perfect), three tenses (present, past, future) and four moods (indicative, imperative, subjunctive, and optative). In this complexity it matches Greek and clearly reflects at least a late, dialectal situation in Proto-Indo-European though for Proto-Indo-European as a whole it is doubtful that we can reconstruct a future (tense), a perfect (aspect), or a subjunctive (mood).

Indo-Aryan

The earliest attested representatives of the Indo-Aryan languages are to be found in north Syria and in India. The evidence from northern Syria appears as loan words in the language of the Mitanni, a group of people speaking the non-IE Hurrian language who were in diplomatic and cultural contact with the Hittites and Egyptians. The Indo-Aryan element of the Mitanni vocabulary is evident in treaties and other works found in the archives of both their neighbors: the archives of the Mitanni themselves remain unknown. The relevant Mitanni texts date to *c* 1400–1330 BC. The evidence for an Indo-Aryan language rests primarily with the names of some Mitanni leaders, the deities they swore by (Mitanni *Indara*, *Mitrašil*, *Našatianna*, and *Uruvanaššil* = OInd *Indra*, *Mitra*, *Nāsatya* and *Varuṇa*), and terms associated with the horse-drawn chariot which are most notably found in a Hittite horse-training manual attributed to Kikkuli 'the Mitanni'. The evidence for Indo-Aryan terms are seen in the numerals preceding the various 'turns' (Mitanni *wa-ar-ta-an-na*, OInd *varta-*) of the race-course, e.g., Mitanni *a-i-ka* 'one' (OInd *éka-*), Mitanni *ti-e-ra-* 'three' (OInd *trí-*), Mitanni *pa-an-za* 'five' (OInd *páñca*) and Mitanni *na-wa* 'nine (OInd *náva*). The close association between the Indo-Aryan element and the war-chariot has generally prompted the conclusion that the Mitanni were briefly subjugated by Indo-Aryans who possessed the chariot and introduced it into northern Mesopotamia. After a number of generations, however, the Indo-Aryan element declined to the status of a (dead) linguistic residue in an otherwise Hurrian-speaking population.

The earliest evidence for the Old Indic language is to be found in the massive corpus of Indic religious literature, the earliest of which is the *Ṛgveda*. The *Ṛgveda* consists of 1028 hymns (more than 10,000 strophes or about the size of the *Iliad* and *Odyssey* combined), associated largely with various clans or families of northwest India, and is one of the four main branches of the vedas. As an oral literature, passed down through the generations by priestly memory and recitation, the dates of its original creation can only be vague but they are generally set to the period *c* 1500–1000 BC. The oral text was "edited" about the seventh century BC by Śākalya and the earliest written manuscripts date to the eleventh century AD. Other prominent Vedic liturgical texts include the *Atharvaveda* and the *Brāhmaṇa* (manuals for undertaking the sacrificial rites). There is also an enormous later classical literature, most prominent being the two major epics, the *Mahābhārata*, the longest epic poem in the word (with *c* 100,000 double verses) and the *Rāmāyaṇa* plus a vast quantity of other works. The language of ancient India was codified or 'put together', (i.e., OInd *saṃ-skṛta-* > Sanskrit) by the great Indic grammarian Pāṇini *c* 400 BC. All of this literature was originally produced orally and the earliest evidence for written Old Indic to survive is in the numerous inscriptions attributed to the reign of the emperor Aśoka in the third century BC. The corpus of the Old Indic lexicon is enormous and provides one of the main sources of comparanda for reconstructing the IE lexicon.

The Middle Indic languages or Prakrit (< OInd *prākṛt* 'made before', i.e., 'natural' or 'vernacular' in contrast to the more artificially governed *sanskrit*) are the "natural" or vernacular languages of early India that were spoken before *c* 400 BC to 1100 AD. Their initial date is difficult to determine but they seem to have existed alongside some of the later Vedic compositions which reflect Prakrit influences. The Prakrits emerged during a period when the impact of the Dravidian languages on Indo-Aryan became much more apparent. Among the Middle Indic languages are Old Prakrit, the Prakrit language found, for example in, the Aśoka inscriptions and Pali, the liturgical language of Buddhism which also emerges by about the fourth century BC. Other Prakrits include Māgadhī, Śaurasenī and Mahārāṣṭrī. In classical Sanskrit drama, kings and brahmins would speak Sanskrit while the dialogue of women, children and the lower classes would be written in Prakrit.

The modern Indo-Aryan languages began to emerge from Prakrit about 1100 AD. These provide the largest of the spoken languages of India-Pakistan today. The Midland dialectal group comprises Hindi-Urdu, Bihari, Rajasthani while the Western languages are Gujarati, Marathi, Sinhalese (in Sri Lanka), and Konkani. Other major Modern Indo-Aryan languages comprise an Eastern group (Assamese, Bengali, Oriya), a Northwest group (Panjabi, Lahnda, Sindhi, Pahari) and the more isolated Dardic languages (Kashmiri, Kalāša, Khowār, Damelī, Gawarbati, Šumaṣṭī, Pašaī, Baškarīk, Tōrwālī, Maiyā, Woṭapūrī, Tirāhī, Ṣiṇā, Phalura, Dumākī). Occasionally, an IE cognate in Indo-Aryan will only be found among the

modern Indo-Aryan languages rather than in any of the earlier languages.

Iranian

The early Iranian languages are far more poorly attested that those of ancient India. The earliest evidence of the Iranian languages is the *Avesta*, the ancient religious texts associated with the prophet Zaraθuštra (the Zoroaster of the early Greeks) and the royal inscription of the Achaemenid kings, primarily Darius I (522–486 BC) and Xerxes (486–465 BC). The date of the *Avesta* has been long disputed but on the basis of its similarity with the earliest Indo-Aryan texts and the cultural background depicted in its hymns, it has been set to the eleventh century BC although much of the material included in it was added later. The earliest sections of the *Avesta* are attributed to Zaraθuštra himself and are known as the *Gāθās*. These have been assigned to the period *c* 1100–600 BC (depending on who one trusts for devising a date for Zaraθuštra). The latter parts of the *Avesta* are variously set to *c* 800 BC to 200 AD. The *Avesta* was first written down about the fourth to sixth centuries AD and the oldest surviving manuscripts date to the thirteenth century and appear to derive from a tenth-century edition. The sixth and fifth century Persian texts written during the reigns of Darius and Xerxes are termed Old Persian. These were written in cuneiform and generally appear as trilingual inscriptions, which also include Elamite, a non-IE language of (southern) Iran, and Babylonian (Semitic). Dialectally, Old Persian is regarded as a southwestern Iranian language in contrast to the east Iranian Avestan which covered most of the rest of greater Iran.

The primary language of Iran until the Arab conquest of 642 was Middle Persian or Pahlavi, a markedly simplified version of Persian which spread over the territory of many of the other Iranian dialects of Iran. North of the Persian state, Iranian languages were spoken through the Middle Ages which belonged to the Eastern Iranian group. On the lower Amu Darya, south of the Aral Sea, Khwarazmian survived until the Turkic conquest of this region in the thirteenth and fourteenth centuries. The ancient land of Sogdiana, which had its capital at Samarkand, was the home of Sogdian which was widely employed across Central Asia. Records in Sogdian date from about the fourth to eleventh century by which time Persian had generally replaced it, with the exception of Yaghnobi which has survived to the present. The language of the Iranians of the steppe lands is generally referred to as Saka. The Saka conquered northwest India in the second century BC and also expanded into Xinjiang, the western province of China, where their language is best preserved in documents from Khotan, hence the designation Khotanese (Saka). Turkic expansions eliminated the Khotanese language, recorded from the seventh to tenth centuries. Khotanese has left no descendants. The related, but phonologically considerably more conservative, Sarikoli is spoken in some of the higher areas of southwestern Xinjiang.

Modern Persian emerged after the Arab conquest of Persia to become the state language of modern Iran and it is also widely spoken outside its borders, e.g., in Central Asia and Afghanistan (Tajiki). Other modern western Iranian languages include Kurdish, spoken in the mountainous territory of Kurdistan, and Baluchi in Baluchistan, the southern territories of Iran and Afghanistan, Tati and Talishi in Azerbaijan, Gilani and Mazandarani along the southern shores of the Caspian; Gorani is spoken in the region of Kermanshah and Zaza survives in eastern Turkey. The more conservative eastern Iranian languages comprise Pashto (Afghan), the state language of Afghanistan, and a series of minor languages: Yaghnobi (on the river Yaghnob), Munjani and Yidgha (Badakshan), Parachi (north of Kabul), and Ormuri (north of Kabul and in Pakistan). The languages of the earlier steppe Iranians survives in mountainous regions such as Ossetic (which some regard as the descendant of the languages spoken by those Alans who did not migrate to western Europe with the Huns), in the Caucasus, and the Pamir languages (Shughni, Roshani, Bartangi, Oroshori, Sarikoli, Yazghulami, Wanchi, Ishkashimi and Wakhi). The more limited literary remains of the earlier Iranian languages are frequently enough augmented by the linguistic residue that has survived in the much more recently attested modern languages.



Indo-Iranian I The distribution of major Indo-Iranian languages. Indo-Aryan languages are italicized; the Nūristānī group is underlined and the Iranian languages are indicated in the Roman script.

Nūristānī

The Nūristānī languages have only been attested since the nineteenth century. They consist of five languages spoken in the Hindu-Kush, the territory formerly named Kafiristan by

their Islamic conquerors from *Kāfirī* 'pagan' and Kafir has sometimes been applied to the Nūristānī languages but is generally abandoned now as politically objectionable. The Nūristānī languages are Ashkun, Kati, Prasun, Waigali and Tregāmi (the latter the language of three villages, hence its name *tre-gami*). The dialectal position of the Nūristānī languages has been a subject of some debate and their precise position with regard to the other Indo-Iranian languages is still undecided. Some, possibly most, argue that Nūristānī is an independent stock of the Indo-Iranian(-Nūristānī) superstock. Certain similarities with Old Indic have prompted some to suggest that Nūristānī was part of Indo-Aryan but unlike the rest of this stock, it did not enter the Punjab and the rest of India nor undergo the linguistic evolution of Old Indic. Others have argued on the ground of phonological similarities with Iranian that the Nūristānī languages were originally Iranian and that their speakers had moved into the vicinity of Indo-Aryan (here Dardic) speakers and were influenced by the other language division.

Indo-Iranian Origins

The distribution of the Indo-Iranians finds them spanning the Eurasian steppe from at least the Ukraine in the west (whence we have historically attested movements of Iranian-speaking peoples such as the Sarmatians and Alans into central and even western Europe) across south Russia, Kazakhstan and extending as far east as Xinjiang in western China (the Saka). They are also found in Iran, Afghanistan and the northwestern two-thirds of the Indian subcontinent. This distribution comprises the open steppe of the north, the oases, lake-side and river valley (Amu Darya, Syr Darya) urban centers of Central Asia, and the plains, mountains and major river systems of southern Asia.

The close linguistic association of the Indo-Iranians demands a common geographical origin before the separation that led them to occupy their historically attested positions. That they were intrusive into at least part of their area of distribution is suggested by the presence of non-IE language stocks in the southern part of their historical territories. The Indo-Aryans who were present among the Mitanni of north Syria operated in a milieu of non-IE Hurrian speakers who occupied the region of northern Mesopotamia and eastern Anatolia. In Iran, there is evidence of Elamite, a non-IE language attested since *c* 2300 BC, occupying most of southwestern Iran (modern Khūzistān); to what extent it existed further north cannot be determined with any certainty. Peninsular India still preserves two non-IE language families: Munda in central India and, more importantly, the Dravidian languages that presently cover the lower third of India but once occupied a much larger area. This larger area of occupation is suggested by the fact that Dravidian place-names are found in now Indo-Aryan regions of central India and one Dravidian language, Brahui, is situated in Baluchistan (although it has also been proposed that Brahui only achieved this position relatively recently). Arguments that it covered the Indus Valley itself are suggested by putative substrate effects of Dravidian on early Indo-Aryan (there are an estimated thirty to forty Dravidian loanwords in Vedic) and the possible identification of the Indus Valley script with the Dravidian languages. There are arguments that Dravidian was related to Elamite and that it was Dravidian speakers who carried the earliest agricultural economy through western India at the beginning of the Neolithic. The Neolithic of eastern India is generally associated with the western spread of Austro-Asiatic languages. Munda is the westernmost of these languages which also include Khasi, spoken in Assam, and Nicobarese in the Nicobor Islands. In the far north of the Indian subcontinent is Burushaski which lacks any demonstrable genetic connections.

It can be seen then that India was probably very linguistically diverse and it experienced the "Neolithic Revolution" from both the east and the west. That the non-IE component of the Indo-Aryan vocabulary for local plants and animals derives heavily from Dravidian and other "local" languages suggests that the Indo-Aryans superimposed themselves on existing agricultural populations. An estimated one third of the modern Hindi vocabulary pertaining to agriculture cannot be explained with reference to Indo-European.

A second reason for excluding the Indo-Aryan languages a local origin is that they share a range of lexical items with the other IE languages for flora, fauna, and technological items which are widely distributed over Eurasia but cannot be seen to have originated in India, e.g., wheeled vehicles.

Thirdly, any attempt to anchor the Indo-Iranians in their historical seats since at least the beginnings of the Neolithic *c* 7000–6000 BC requires two models, neither of which is persuasive. It might be argued (as a number of Indian linguists and archaeologists suggest today) that the IE homeland was in or near northwest India and that the other IE languages had emigrated from this region. This theory, which resurrects some of the earliest speculations on the origins of the Indo-Europeans, has not a shred of supporting evidence, either linguistic or archaeological. Alternatively, the spread of the Indo-Iranian languages has been tied to the spread of the Neolithic economy and hence, for example, some would credit Proto-Indo-Aryan farmers with introducing agriculture to India. This theory is proposed under two alternative models: The first would argue that the transition from hunting-gathering to agriculture took place in the vicinity of India and that the Harappan culture was a (linguistically) local phenomenon. Archaeologically, a possible case can be made for this as we do find the development of an agricultural economy from its hunting-gathering past in Baluchistan at the site of Mehrgarh and subsequent developments in architectural and social complexity that foreshadow the urbanized culture of the Indus. But if the identification is argued to reflect linguistic continuity until the emergence of Indo-Aryan texts, then we would have to look to this same region as the IE homeland itself which renders such a linguistic

model liable to the criticism above. Moreover, one can also witness a local transition to agriculture in the upland region of Iraqi Kurdistan and we can hardly have two separate origins for the Indo-Iranians.

The Anatolian model of IE origins offers a second agricultural solution where Indo-Iranians are explained as an eastern spread from a common IE agricultural heartland situated in the vicinity of central or eastern Anatolia. The problem here is that between the later speakers of Indo-European languages in Anatolia and those of India and Iran, we find non-IE language families, e.g., Semitic, Hurrian, Elamite, and possibly Dravidian. Moreover, the entrance of Indo-Aryans into the Indian borderlands at about 6000 BC (the appearance of agriculture in the region) renders it impossible to explain how later Indo-Aryan languages share the same vocabulary with western Europeans for items such as wheeled vehicles which would not even be invented for several thousand years later. Moreover, such a model ignores the evidence for local origins of agriculture in Baluchistan.

Finally, the Indo-Iranian languages show deep connections with the Uralic language family whose own origins are variously set to either the region immediately west or east of the southern Urals. There are numerous loanwords in the Uralic languages that were probably borrowed from Iranian but in some cases, an earlier Indo-Iranian loan is suspected, e.g., Proto-Indo-Iranian **kētstro-* 'spindle' (cf. Pashto *cāṣ̌ai*, OInd *cāttra-*) > Proto-Finno-Ugric **kešträ* (cf. Finnish *kehrä* 'spindle'). This contact suggests that the ancestors of the Indo-Iranian languages were once in contact with those of the Finno-Ugric languages of the Eurasian forest zone and that the distribution of the Indo-Iranian languages is best explained by a north to south movement.

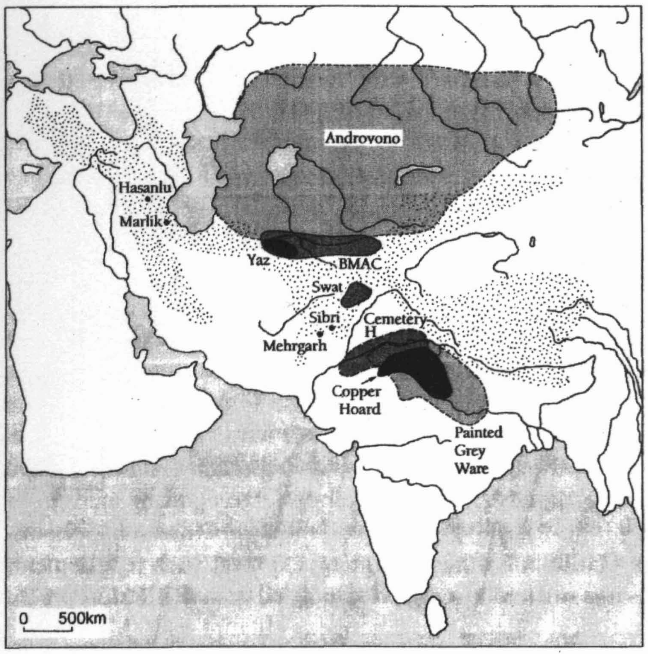
The most widespread model of Indo-Iranian origins today finds their direct ancestry among the populations of the eastern steppe. From the end of the third millennium BC, cultures emerge in the southern Urals and Kazakhstan, which appear to have all the prerequisites of what one would expect of the earliest Indo-Iranians. These prerequisites include the domestic horse and the chariot, the latter which first appears at such sites as Sintashta in the southern Urals just before 2000 BC. The more mobile way of life, witnessed in the earliest Vedic hymns, is also seen in this region along with a primary stockbreeding economy. This region also provides a convenient contact zone with the Finno-Ugric languages. The culture most frequently associated with the earliest Indo-Iranians is that of the Andronovo culture, actually a blanket term for a variety of cultures situated across the forest-steppe, steppe, and later on the northern borders of Central Asia.

The theoretical model of Indo-Iranian expansions generally follows at least a variant of the scheme suggested by Thomas Burrow. According to Burrow, the Indo-Aryans were the first to diverge from the Indo-Iranian continuum or proto-language and they were the earliest to penetrate south of Central Asia. They moved both west (Mitanni) and east (toward northwest India). They were then subsequently pushed out of the central region by a second major wave of Iranian speakers who absorbed earlier Indo-Aryans, including some of their vocabulary, placenames and deities (who were demonized as foreign gods).

Indo-Aryan Origins

As we have seen, the Indo-Aryans appear both in northern Syria and in northwest India. Those who found themselves among the Hurrian-speaking Mitanni probably did so by *c* 1500 BC as the Indo-Aryan element in the Mitanni vocabulary has been regarded as a residue of a dead language. The archaeological evidence for such an Indo-Iranian presence among the Mitanni generally centers on the introduction of the horse-drawn chariot, evidence for some form of cultural movement from the east Caspian region that might be linked to Indo-Iranians, and the possibility of recognizing Indo-Aryan (or Indo-Iranian) mythological motifs in Mitanni art. The site of Marlik in northern Iran tends to meet such requirements as it is situated in a region associated with the location of the historical Mitanni and it contains Mitanni seals. Moreover, it yields West Iranian Grey Ware, a pottery type that appears about 1500 BC and whose origins lie southeast of the Caspian. The cemetery of Marlik yielded evidence for the horse and chariot, and items associated with Indo-Iranian religion, e.g., fire cult, mortars for pressing out the sacred **sauma* have also been recovered from the site. The contemporary site of Hasanlu near Lake Urmia has also yielded iconographic evidence that may have been inspired by Indo-Iranian mythology, e.g., the hero confronting the three-headed monster. All of this evidence has suggested an Indo-Aryan presence in the Mitanni region. How precisely this presence ties in with putative Indo-Iranians further north is uncertain although there have been attempts to derive this westward spread of Indo-Aryans from the Bactrian-Margiana Archaeological Complex (BMAC), a recently defined culture which a number of scholars have suggested may be associated with the Indo-Aryans.

The archaeological evidence for the earliest Indo-Aryans in northwest India is either controversial or ambiguous as it is difficult to define what precisely should be expected of an Indo-Aryan culture. The early Vedic hymns reflect a geographical knowledge of the *sapta-sindhava*, the 'seven-rivers' or tributaries of the Indus, which would place them between the rivers Kabul in the north and Ghaggar in the south. Their distribution would cross with that of the Harappan culture of the Indus region but we have seen that the latter culture would make a very poor candidate for early Indo-Aryans. The local continuity of early agriculturalists through the rise of Elamites and the Harappan culture renders it far easier to propose linguistic continuity from the Neolithic into the Bronze Age in both much of Iran and northwest India (Proto-Dravidian has an agricultural vocabulary of its own which includes rice and plow; also a more urbanised vocabulary in that it reconstructs a word for the second story of a house). Moreover, Vedic literature also makes it clear



Indo-Iranian II Archaeological cultures associated with Indo-Iranian migrations. The early phases of the Andronovo culture have often been seen to offer a "staging area" for Indo-Iranian movements. The BMAC offers the Central Asian cultural "filter" through which some argue the Indo-Iranians must have passed southwards to such sites as Mehrgarh and Sibri. The Yaz culture has been most closely associated with the culture depicted in the *Avesta.* The Swāt culture may reflect either Indo-Aryan movements toward northwest India or the emergence of Nūristāni or Dardic populations. Candidates for early Indo-Aryan cultures include the Cemetery H, Copper Hoard and Painted Grey Ware cultures.

that we are dealing with a largely pastoral society which employed the horse and chariot; it makes no mention of towns yet is geographically situated where urbanism previously existed. Hence the emergence of an Indo-Aryan community in northwest India is traditionally dated after the Harappans or concomitant with their decline. That there was a decline and population readjustment is unequivocally supported by the archaeological evidence. In the period between *c* 2000 and 1800 BC there is a total collapse of urbanism in northwest India and a massive, almost total in some regions, abandonment of areas in the west and a relocation or at least population increase in the east, e.g., the eastern Punjab. Out of this Late Harappan period, numerous candidates have been invoked to represent the archaeological expression of Indo-Aryans.

Prominent candidates for early Indo-Aryans have included the Cemetery H culture, the Copper Hoard culture, the Painted Grey Ware culture and the Swāt culture. The Cemetery H culture (*c* 2000–1400 BC) is reflected in a series of burials that clearly date to after the collapse of the Indus towns. Their ascription to Indo-Aryans is founded on their geographical location, some evidence for urn burial (indicated in the Vedas), and the depiction of peacocks and dogs on vessels which is reminiscent of motifs indicated in Vedic mythology (peacocks represent the spirit of the dead while the dogs are identified as the hounds of Yama, lord of the underworld). The material, however, is not entirely intrusive as local techniques of manufacture are employed. Furthermore, the physical remains of the deceased are indistinguishable from those of earlier "pure" Harappan cemeteries, the evidence for the culture is far too sparse to be regarded as an expression of an Indo-Aryan conquest of the region, and there are no external sources from which to derive the culture.

The Copper Hoard culture (*c* 2000–1500 BC) consists primarily of a complex of metal artifacts, largely weapons, including peculiar copper harpoons which some have identified with the *vájra* the special weapon of the Indo-Aryan war-god, Indra. That the primary distribution of these objects is in the Ganges valley rather than further west suggests that this culture cannot be seen as an archaeological expression of the earliest Vedic Indo-Aryans although their eastern spread may possibly be connected in some way with the Copper Hoard culture.

The Painted Grey Ware culture meets the requirements of distribution in so far as later Old Indic literature is concerned since it is found to match roughly the areas mentioned in the *Mahābhārata.* It is non-urban and it possessed the domestic horse (chariots are presumed) and dates from *c* 1200 to 400 BC. But its distribution is centered on the region between the eastern Punjab and the Ganges which does not correlate well with the geographical view of the earliest attested Indo-Iranian literature. Furthermore, it too lacks any clear external derivation and it is, consequently, difficult to link it to an intrusive group of Indo-Aryan speakers.

The Swāt culture occupied the region of the Swāt Valley, the northern approach to the Indus, and consequently, a territory through which one might expect Indo-Aryan intruders. It has a number of parallels with Vedic religion, e.g., both inhumation and cremation were practiced and there is evidence for the domestic horse, including horse burials and horse trappings. It dates from *c* 1800/1700 to 400 BC and some argue that its roots lie further to the north in the Bishkent culture of southern Tadzhikistan which offers further parallels of Indo-Iranian religion. As a possible expression of early Indo-Aryans, this is a robust candidate but also a very limited one in that it cannot be convincingly linked to culture changes throughout northwest India but only in the far northwest corner. Its territory is the later seat of both the Dardic and Nūristāni-speaking peoples and it is with either of them that one most easily identifies the Swāt culture. Arguments for connecting it with movements further south require some form of cultural assimilation into the post-Harappan cultures such as the Cemetery H culture.

Finally, the most recently proposed candidate as an archaeological expression of the early Indo-Aryans is to be found much further to the northwest. The spread of the

Neolithic economy to Central Asia was already achieved by the seventh millennium BC when agricultural villages appeared along the southern fringe of the Central Asian desert. From this period there is evidence of marked regional cultures that share some similarity from Central Asia in the north to the Indus Valley in the south but the amount of interaction, other than occasional exchange items, raw material trade, or generic similarities in ceramic styles and decoration, suggests only a weak interaction sphere. The major cultural change that cannot be simply credited to evolutionary factors is the emergence of the Bactrian-Margiana Archaeological Complex (BMAC) in the period *c* 2000–1750 BC. This complex represents the development of a series of colonies along the Bactrian and Margiana oases that formed primitive "khanates"; fortified citadels of elite farming groups. The culture is marked by a series of stylistic elements, represented in steatite seals, and other iconographic representations, and the BMAC absorbed imports of raw material from a vast area of Central Asia. Its importance regarding Indo-Aryan origins concerns the spread of burials with BMAC material further to the south. BMAC graves are found on the Iranian plateau and as far south as Quetta, Mehrgarh (VIII) and Sibri, on the approach to the Indus Valley. This intrusive material appears *c* 1900–1700 BC and offers another candidate for movements from north to south during the period generally presumed to embrace that of Indo-Iranian expansions.

That the BMAC was not specifically an urban society has been employed to suggest connections with the non-urban societies that characterize post-Harappan India. Against the supposition that the BMAC "resolves" the entire issue of Indo-Aryan origins and expansions is that it is very sparsely represented outside of its core territory (i.e., there is no evidence of an infilling of Iran and Afghanistan with BMAC material antecedent to movements into northwest India). In addition, the evidence that the BMAC was guided by Indo-Aryan-speakers requires it to have been linguistically assimilated by early Indo-Iranian steppe tribes (Andronovo culture). Although there is some evidence for contacts between the two cultures, the evidence falls far short of demonstrating that the BMAC had adopted an Indo-Aryan language.

Iranian Origins

The earliest historical reference to Iranian-speaking peoples occurs in the ninth century when in 835 BC the Assyrian king Shalmaneser received tribute from the twenty-seven tribes of the *Paršuwaš*, which is generally thought to indicate the Persians. The Medes are subsequently mentioned in the eighth century. The *Avesta* is an older document and provides enough geographical points of reference to indicate that its cultural milieu was east of the Caspian as far as the river Helmand. The *Avesta* also mentions the *airyanəm vaējō* 'Aryan expanse', which is generally taken to refer to the Aryan "homeland", a geographical concept that has exercised scholarship (and not a little imagination) since the nineteenth century. Although not rich in content concerning material culture, the general economic picture of the earliest parts of the *Avesta* suggests a primarily pastoral society with no evidence of agriculture or urbanism. The later Avestan texts do portray a society with mixed agriculture and acquainted with urbanism. Finally, the Iranian-speaking nomads of the steppe are described by Herodotus (Bk 4) as appearing in successive waves, moving east to west, across south Russia into the Ukraine.

Models of Iranian origins and dispersions refer back to the steppelands and presume that the difference between the Indo-Aryans and the Iranians is more a matter of chronology than cultural content, i.e., sites once occupied by the earliest expansion of the Indo-Aryans should have later been occupied by the Iranians who filled the same territory and may have "pushed" the Indo-Aryans southwards into India. As the Andronovo culture continued down until 900 BC, it may be presumed that its later phases were expressions of specifically eastern Iranian languages. The same might also be said for its western neighbor, the related Srubna culture of the Volga-Don region. The subsequent evolution to Iron Age societies across the steppe might then be regarded as the immediate ancestors of the Scythians and Sarmatians, the Iranian-speaking nomadic tribes mentioned in the earliest Greek historical texts.

As the *Avesta* reflects an increasingly more sedentized society, the likely candidate for it in the archaeological record is the Iron Age Yaz I culture (*c* 1500–1100 BC) which occupies the regions most closely assigned to the *Avesta* at a time roughly coincident with its earliest creation. Early farming citadels, steppe-derived metallurgy and ceramics, and the conspicuous absence of burials, which possibly reflects the Zoroastrian norms for disposing of the dead by exposure rather than burial, fit in well with the textual evidence for Avestan society. Later cultural continuity in Central Asia may then reflect the ancestors of the later East Iranian communities that emerged in the later historical period.

The western Iranians, the Medes and Persians, are the most difficult linguistic entity to trace in the archaeological record. Since the earliest historical records of the Iranians place them in territories proximate to those earlier assigned to the Indo-Aryan route into Mitanni, the earliest evidence for these Iranians is set to the period after the appearance of West Iranian Grey Ware (*c* 1500–1000 BC). The next cultural expansion moving southwestwards from the east Caspian is the West Iranian Buff Ware, a ceramic style that first appeared in the Gorgan region east of the Caspian *c* 1100 BC and then on sites of the Zagros region later attributed to the Medes and Persians. This ceramic style is intrusive wherever it occurs in Iran and is regarded as ancestral to the ceramics later attributed to the Achaemenid Empire of the Persians.

See also **BMAC**; **Copper Hoard Culture**; **Harappan Culture**; **Hasanlu**; **Indo-European Homeland**; **Indo-European Languages**; **Marlik**; **Painted Gray Ware Culture**; **Swāt Culture**. [D.Q.A., J.P.M.]

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INJURE

***k̑er-** 'decay' (intr.), 'harm' (tr.). [*IEW* 578 (**k̑er-*); Wat 30 (**ker-*)]. OIr *ara-chrin* 'decays', Lat *cariēs* 'decay', Alb *ther* 'slaughter, stab, goad', Grk *κεραΐζω* 'devastate, kill', Av *a-sarəta-* 'not broken', OInd *śīryate* 'decays', TochA *kāryap* 'injury', TochB *karep* 'injury'. Widespread IE word; a sure candidate for at least late PIE.

***sket(h)-** (or perhaps ***skeh$_1$t(h)-**) 'injure, harm'. [*IEW* 950 (**skēth-*); Wat 60 (**sket(ə)-*); Buck 11.28]. OIr *scīth* (< **skēt(h)o-*) 'tired', ON *skaði* 'harm, loss', *skaða* 'injure' (borrowed > NE *scathe*), OE *sceaðe* 'injury', *scaðian* 'injure, spoil, steal', OHG *scado* 'harm, loss', *scadōn* 'injure', Goth *skaþis* 'harm, injustice', Grk *ἀσκηθής* 'uninjured'. Less widespread and presumably younger than the preceding word. Perhaps a "popular" word subject to a certain amount of phonological rebuilding.

***h$_a$ei-** 'assail, afflict'. [*IEW* 10 (**ai-*); Buck 16.75; Puhvel 1984:366]. Hit *inan-* 'illness, disease', Av *aēnah-* 'violence, damage', *iti-* 'injury, offense', OInd *énas-* 'sin, guilt', *iti-* 'plague, disease'. The root may also be found in Grk (Hesychius) *ζητρός* 'executioner', OInd *yatár-* 'avenger'. If the correspondence between Anatolian and Indo-Iranian is accepted, then a word of considerable antiquity.

See also HARM; WOUND. [D.Q.A.]

INSECTS

?*kóris '± biting insect'. [*IEW* 938–939 (**kori-*)]. OCS *korĭ* 'moth', Rus *korĭ* 'moth', Grk *κόρις* 'bedbug (*Cimex lectularius*)'. Probably a word of the center of the IE world, though it is also possible that the Slavic and Greek represent independent formations from **(s)ker-* 'cut' in the two groups.

***h$_1$empís** 'gnat, stinging insect'. [*IEW* 311 (**embhi-* ~ **empi-*)]. OE *ymbe* 'swarm of bees', OHG *imbi* 'swarm of bees' (Gmc < **h$_1$empiį̯ó-*), Grk *ἐμπίς* 'gnat'. This is an old equation, not universally acknowledged by any means. If it is correct, we have evidence for a word of the west and center of the IE world.

***mok̑o-** 'gnat, stinging insect'. [*IEW* 699 (**mak̑o-* ~ **mok̑-o-*)]. Lith *mãšalas* 'gnat', Latv *masalas* 'horsefly', MPers *makas* (metathesized from Proto-Iranian **masaka-*) 'fly', OInd *maśáka-* 'gnat, mosquito, any insect that bites or stings'. With **-k-* rather than **-k̑-* we have Lith *mākatas* 'gnat', Av *maxšī-* 'fly', OInd *mákṣ-* ~ *mákṣā-* 'fly', *mákṣikā-* 'fly, bee' (borrowed from Indo-Iranian we have Mordvin *mekš* 'bee', Hungarian *méh* 'bee', Finnish *mehiläinen* 'bee'). A word of the center and east of the IE world.

***u̯ebhel-** ~ ***u̯obhel-** 'weevil, beetle'. [*IEW* 1114–1115 (**u̯ebh-*); Wat 73 (**webh-*)]. ON *torð-ýfill* 'dung-beetle', OE *wifel* 'weevil, beetle' (> NE *weevil*), OHG *wibil* 'weevil', Lith *vãbalas* 'beetle, weevil', *vabolė̃* 'dung-beetle', Latv *vabals* 'weevil', Rus (dial.) *veblica* '(intestinal) worm'. Always taken to be a derivative of **(h$_1$)u̯ebh-* 'weave' in the latter's metaphorical meanings of 'move quickly' or 'move back and forth' (cf. NE *waver*). Neither semantic derivation is particularly compelling and it would seem at least possible that this etymon is independent of the word for 'weave'. Whatever its origin, a word of the northwest IE world.

***g^welōn** 'insect's stinger'. [*IEW* 470 (**g^uel-*); Wat 24 (**g^wel-*); BK 359 (**q^wal-/*q^wəl-*)]. Lith *geluõ* ~ *geluonis* '(insect's) stinger', Latv *dzęluonis* '(insect's) stinger', Grk (Hesychius) *δέλλιθες* (pl.) 'wasps' (< **g^wel-nidh-*). Cf. Grk *βελόνη* 'point, needle'. At least a word of the center of the IE world. From **g^wel-* 'strike, stab'.

See also ANIMAL; ANT; BEE; BUTTERFLY; FLY[1]; HORNET; WASP; WORM. [D.Q.A.]

INSPIRATION

***ish$_1$ros** '(sacred) power'. [*IEW* 299 (**isəro-s*); Wat 16 (**is-(ə)ro-*); GI 702 (**eisH̥ro-*); Buck 22.19]. Myc *i-je-ro* 'powerful', Grk *ἱερός* 'sacred, powerful, vital', OInd *iṣirá-* 'powerful, lively'. The Old Indic is an adjective derived from *iṣáyati* 'makes lively, invigorates' which is a denominative from **iṣ-* 'a drink which is consumed at an offering which invigorates'. The lexical relationship between the Greek and Indic is also underpinned between cognate expressions where Grk *ἱερὸν μένος* 'sacred strength' = OInd (instr.) *iṣiréṇa ... mánasā* 'fierce

in sacred spirit'. Both of these apply to sacred religious power and indicate participation in the marvelous potency of the gods. In Greek, the sacred connotation is also to be found in the derivative *ἱερεύς* 'priest', *ἱερεύω* 'sacrifice', etc. Attempts to bring in here also a series of Italic terms: Osc *aisusis* 'sacrificiis', Umb *esono-* 'divinus' are not accepted today; these words are rather to be derived from Etrusco-Latin *aesar* 'god', *aisuna, aisna* 'divine' or something to do with sacrifice. Cf. Av *aēša-* 'powerful' and the phrase *vāxš aēšō* 'efficacious voice'.

See also Heal; Iron. [E.C.P.]

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INSULT

(h$_x$)neid- 'insult'. [*IEW* 760 (**neid-*)]. OE *ge-nǣtan* 'torment', OHG *neizzan* 'torment', Goth *ga-naitjan* 'treat shamefully', Lith *níedėti* 'despise', Latv *nīst* 'hate', Grk *ὀνειδίζω* 'revile', Arm *anēc* 'curse', Av *naēd-* 'insult', OInd *níndati* 'insult'. The prothesis in Greek and Armenian indicates that we may be dealing with an enlarged stem **(h$_x$)n-ei-d-* from **(h$_1$)ni-* 'downward' as in **(h$_x$)nei-u̯-* in Grk *νείατος* (< **neiu̯atos*) 'lowest', *νειόθεν* 'from below', Lith *néivoti* 'revile', Latv *niêvât* 'revile, despise'. The major difficulty with this hypothesis is that the Greek initial *o-* (also in *ὄνειδος* 'blame, reproach') requires PIE **h$_3$* whereas one has to assume **h$_1$*, or, more likely no laryngeal at all, for **(h$_1$)ni-* 'downward'. Further zero-grade cognates in Old Indic include *níd(a)-* 'reproach', *nindā́* 'abuse, slander'. Distribution clearly supports PIE status.

pih$_x$(i)- 'revile'. [*IEW* 792 (**pē(i)-*)]. ON *fjā* 'hate', OE *fēon* 'hate', OHG *fiēn* 'hate', Goth *fijan* 'hate', OInd *pī́yati* 'insults'. The proto-form may be a suffixed zero-grade with laryngeal metathesis of the stem **peh$_x$(i)-* with the same root **peh$_x$-* seen in Grk *πῆμα* 'suffering, misfortune', Av *pāman-* 'skin disease', OInd *pāmán-* 'skin disease'. As Vedic *pāpmán-* 'misfortune, suffering' is considered to be reshaped from **pāmán-* after *pāpá-* 'bad, evil', a basic meaning 'misfortune' can be assumed for the underlying root **peh$_x$-*. Goth *faian* 'blame' derives from *péh$_1$-i̯-* Distribution suggests PIE status.

See also Blame; Contend. [E.C.P.]

INTERJECTIONS

ō 'O' (vocative particle). [*IEW* 772 (**ō*)]. OIr *ā* (vocative particle)], Wels *a* (vocative particle), Lat *ō* (cry), MHG *ō* (vocative), Goth *ō* 'alas', Lith *ō* (vocative particle), Latv *a* (vocative particle), OCS *o* (vocative particle), Grk *ὦ* (cry of astonishment, vocative particle), OInd *ā* (vocative particle). Clearly old in PIE but also possibly subject to irregular reformation in the various stocks which preserve it.

u̯ai 'alas'. [*IEW* 1110–1111 (**u̯ai*); Wat 73 (**wai*); BK 479 (**way*)]. MIr *fae* 'alas', Wels *gwae* 'alas', Lat *vae* 'alas', ON *vei* 'alas', OE *wā* 'alas', OHG *wē* 'alas', Goth *wai* 'alas', Lith *vaĩ* 'alas', Latv *vài* 'alas', Alb *vaj* 'lament', Grk *οὐαί* 'alas', Arm *vay* 'woe, misfortune', Av *vayōi* 'alas'. Basically a widespread onomatopoeic word, continually recreated (thus accounting for the irregular phonological developments in Albanian, Greek and Armenian).

See also Call. [D.Q.A.]

INTESTINE *see* ENTRAILS

INTOXICATOR

medhu̯ih$_a$- 'intoxicator'. [*IEW* 707 (**médhu*); cf. Wat 39 (**medhu-*); cf. GI 517–518 (**med^{h}u-*); BK 543 (**mad^w-/*məd^w-*)]. OIr *Medb* (queen of Connacht), Gaul *Meduna, Medugenus*, perhaps OInd *Mādhavī* (daughter of Yayāti). Linguistically, the form certainly underlies the Celtic name where OIr *medb* was originally an adjective meaning 'inebriating' beside *mid* 'mead, intoxicating drink'. The same form, with lengthened grade, could also underlie the name of OInd *Mādhavī*. Conceptually related, it is argued, is *aśvamedha-* 'horse sacrifice' which may be connected with OInd *mad-* 'boil, rejoice, get drunk', again indicating an intoxicating substance although by a different word (cf. also OInd *mádhu* 'sweet drink, honey, soma, milk'). In both the Celtic and Old Indic cases, an intoxicating substance played a part in the Indo-European ritual of the horse-sacrifice, the ritual which established the sovereignty of a king. The mythological correspondence between the two stocks also rests on the interpretation of two female epic characters by Georges Dumézil. Both the OInd *Mādhavī*, the daughter of Yayāti in the *Mahābhārata* and the Irish queen of Connacht *Medb* involve specific speculations about the royal function. OInd *mādhavī* either designates a spring flower, rich in honey, or an intoxicating drink like the Vedic adjective *madhvi-* 'sweet'. The geographical distribution of the semantically similar names and the structural similarities of the deities involved suggests we are dealing with a PIE concept.

See also Honey; Horse; Horse Goddess; King and Virgin; Sacred Drink. [J.P.M.]

IRANIAN *see* INDO-IRANIAN LANGUAGES

IRON

Although there are occasional traces of earlier meteoritic iron and chance finds of iron objects in the third millennium BC, e.g., in Egypt, iron-working in general does not emerge until after *c* 2000 BC where it appears first in eastern Anatolia. From there it appears to have spread both through the Near East (at least partly with the help of the Phoenicians) and across Europe, generally after 1000 BC. It appears in Greece by 1000 BC and in northwest Italy shortly thereafter and it diffused through central and western Europe by about 800 BC, reaching Britain by about 500 BC. The spread of iron and its ultimate replacement of bronze for the manufacture of tools and weapons (although not of ornaments) was due to the fact that iron ore is far more ubiquitous in Eurasia (and the rest of the world) than copper and especially tin (needed to alloy with copper to produce the harder bronze) hence it

provided a much more abundant and also less expensive metal. Also, the carburization of iron, i.e., the production of steel by impregnating iron with carbon, produced a hard edge which was particularly useful in the production of both weapons and edged tools. It should be noted that in western Eurasia the earliest iron objects were forged, i.e., made of wrought iron by beating the iron into the intended shape; the casting of iron required higher temperatures than could usually be found in the west and so there was also a manufacturing shift from casting to forging for the primary utilitarian metal (in ancient China, cast iron was regularly employed). This diffusion of the new iron-based technology would date to a period long after the dissolution of PIE and it occasions no surprise that there is no common word for this metal between IE stocks other than occasional loans.

The Celtic forms (OIr *íarn* [*DIL íarn*] 'iron', Wels *haearn* 'iron') are derived from the same adjective which yielded Grk *ἱερός* 'sacred, holy' but might equally be translated 'mighty, powerful'. The Latin form *ferrum* 'iron' was borrowed possibly from a Semitic language, e.g., Phoenician *barzel* 'iron' that may also have given OE *bræs* 'brass, bronze' (> NE *brass*) and Fris *bres* 'copper'. The spread of iron through the central Mediterranean by both Greeks and Phoenicians might explain the Latin word but the shift in meaning of this word to 'copper' or a copper alloy (brass [copper + zinc], bronze [copper + tin]) is not so easily explained although northern Europe was to depend on foreign sources for its copper and bronze as it lacked native sources. The Germanic forms for iron (ON *īsarn* 'iron', OE *īse(r)n* 'iron' [> NE *iron*], OHG *īsarn* 'iron') provide evidence that iron metallurgy was borrowed from the Celts who, controlling the Erzgebirge, were among the foremost metallurgists of the central European Bronze and Iron ages. Variance in vowel lengths indicates that, though related, the Baltic (Lith *geležìs* 'iron') and Slavic (OCS *želězo* 'iron') terms cannot be reconstructed to a common Balto-Slavic proto-form, and we seem to meet another loan word. Similarities to Grk *χαλκός* 'bronze' (itself identified as a loan) and even to Sino-Tibetan **qhleks* '(cast) iron' have been noted, but the significance of this data is unclear. (It is doubtful that 'iron' is the original meaning for the Sino-Tibetan **qhleks* since Sino-Tibetan unity must have been dissolved before the advent of iron metallurgy—in which case we seem to have another loan-word). Phonetically Grk *σίδηρος* 'iron' resembles the Germanic (OE *seolfor* 'silver' [> NE *silver*]) and Balto-Slavic (Lith *sidābras*, OCS *sĭrebro*) 'silver' words; although both metals may be white the phonological similarity may be fortuitous. The similarity to Germanic words for slag (OHG *sintar* 'sinter'), a necessary by-product of low-temperature iron-smelting, is more promising. However, the irregular relationship of the consonants in the putative equation of Lith *sidābras* and OHG *sintar* (defying Grimm's Law) and the anomalous nasal of the Germanic form indicate a loan source in Balto-Slavic, Germanic, or both. These loans may suggest that an active (non-Indo-European?) metallurgical tradition survived in central Europe until the Iron Age.

The derivation of the term for 'iron' from an adjective meaning 'black' may explain the Armenian form where the first part of *erkatʻ* 'iron' may be derived from 'black' (< PIE **h_1reg^w-es-*) with the same suffix found in 'silver' (cf. Arm *arcatʻ*). Similar forms are widely disseminated throughout the Caucasus, and it is often difficult to determine which language is the borrower and which the donor. The Hittite form *(h)apalki-* bears only the most tenuous similarity to the Greek forms for 'bronze' and we are dealing with an Anatolian source. A situation similar to that of Armenian may be found in Indo-Iranian where an older term for 'bronze' was first given an adjective 'black' (OInd *śyāmám áyas-*) to designate the newer metal and eventually became the technological metal par excellence.

See also Inspiration; Metal; Silver. [M.E.H., J.P.M.]

ITALIC LANGUAGES

The predominance of the Latin language in the Italian peninsula was an achievement of the first centuries BC and until that time Italy was occupied by a variety of both IE and presumably non-IE linguistic groups. In some cases, the linguistic position of various peoples is relatively secure but in a number of cases the inscriptional evidence is so meager that one can determine at best whether the language in question is IE and in some instances even the language family itself may be in doubt. The certain IE languages comprise those that are commonly designated Italic and several other languages, some Celtic or at least heavily influenced by Celtic, and some languages whose status with regard to the other IE stocks is disputed or indeterminable.

For comparative purposes, by far the most important of the Italic languages is Latin which was originally centered on Rome and then expanded over the entire peninsula in the first centuries BC and eventually over the Roman Empire to provide the foundation of the modern Romance languages. The earliest evidence for Latin are inscriptions that first appear *c* 620 BC. These are in Old Latin (OLat) and reveal certain archaisms that are continued, at least in inscriptions, down to *c* 80 BC although Classical Latin (Lat) is found in earlier literary works, at least since the time of Cicero, i.e., 106 BC.

Closely related to Latin was Faliscan whose main town, Falerii Veteris (modern Cività Castellana), was situated 40 km north of Rome. The language was first recorded in inscriptions from about 600 BC and probably became extinct in the first centuries BC. When the Faliscans were defeated by the Romans in the third century BC and relocated to Rome, they were assimilated to the Roman language. Dialectally, Latin and Faliscan are generally grouped together as two closely related languages or, according to some, even dialects of the same language, e.g., a Faliscan inscription on the base of a wine cup reads: *foied uino pipafo cra carefo* which would be rendered into Classical Latin as *hodie uinum bibam; cras carebo* 'today wine I will drink; tomorrow I will lack'.

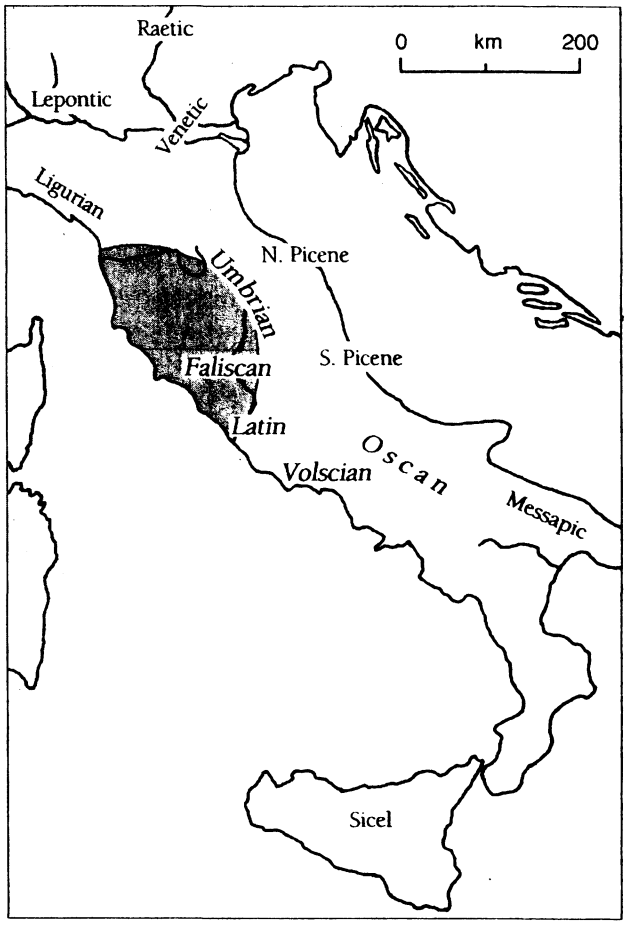
Down the spine of Italy was spoken the language of the Samnites, Oscan, which survived on graffiti on the walls of

Pompeii as well as in the form of about two-hundred documents, generally quite short, except for the first-century BC *Tabula Bantina*, a bronze tablet. Sources of Oscan first appear about the fifth century BC and run to the first century BC.

The best represented Italic language after Latin is Umbrian, found north of the Oscan speech area and east of the Etruscans, which is known principally from the Iguvium tablets (named after their place of origin in Iguvium, modern Gubbio). These comprise a set of seven (of an original nine) bronze tablets. Those recorded in the Umbrian (< Etruscan) script are the earliest and date from the third century BC while those tablets in the Latin script have been attributed to the first century BC. The tablets are ritual in nature and provide not only a useful source for comparative linguistics but also early Italic religious practices. Other than the tablets, most other evidence for Umbrian is provided in glosses.

Latin and Faliscan are obviously very closely related, as are Oscan and Umbrian (and with Oscan and Umbrian are grouped a number of other scantily attested languages or dialects, e.g., Volscian, Sabine, Marsian). The exact relationship of Latin-Faliscan and Osco-Umbrian, however, is not altogether clear. The two are usually grouped together as the two halves of a unitary Italic branch of Indo-European, to which Venetic in the northeast of Italy is sometimes (but more often not) added as a third major subbranch. The many similarities of phonological and morphological development that Latin-Faliscan and Osco-Umbrian share, however, have also been explained as the result of the long-term mutual influence of Latin-Faliscan and Osco-Umbrian on one another but that the two were originally quite separate IE branches.

Briefly, the other ancient languages of Italy comprise Sicel (whence Sicily) which appeared to be spoken to the southwest of the Italic languages, in Calabria and Sicily. The southeastern side of the Italian "boot" was occupied by a number of peoples whose language is covered by the term Messapic and is granted a status independent of Italic. To their north lay the Picenes, an inappropriate ethnic term which includes probably two different languages. Southern Picene is clearly Indo-European and may well be closely related to or part of Italic while Northern Picene has defied interpretation, some regarding it as an Indo-European (but without actually being able to interpret its largest literary monument, the Novilara stele which yields twelve lines of unintelligible text which some have assigned to IE because of its sounds and endings) and others to an aboriginal non-IE language because of our inability to read anything on it with any certainty. To the north of Rome lay the Etruscans whose language is more commonly (although not universally) regarded as non-Indo-European. The northern Italian languages comprise Ligurian in the northwest which has been variously regarded as influenced by Celtic if not actually a Celtic language. The central region of northern Italy centered on Milan was the territory of the Lepontic language whose inscriptions date from the sixth to first centuries BC and are now assigned to the Celtic stock. Further east in the modern Veneto were the remains of Venetic, a possibly independent IE language (some would argue Italic) with (controversially) possible connections to Illyrian and Germanic. North of Venetic is Raetic, again known from a small number of inscriptions dating from about the fourth and third centuries BC and again defying certain classification although presumably Indo-European.



Italic I Distribution of the Italic languages (Umbrian, Faliscan, Latin, Volscian, Oscan, S. Picene, Sicel, and possibly Venetic) and other Indo-European languages of Italy. Shaded area indicates the territory of non-Indo-European Etruscans while N. Picene may well be non-Indo-European.

Description

From the point of view of PIE the Italic languages (Latin-Faliscan and Osco-Umbrian taken as one group) are fairly conservative. In phonology, the Italic languages are centum languages, merging the palatals with the velars, thus Lat *centum* with a *k*-, but keeping this combined group separate from the labio-velars, e.g., Lat *quis* 'who' (in Osco-Umbrian the labio-velars are subsequently merged with the bilabials, thus *pis* 'who'). The Italic languages are distinct from all the other major IE groups in that the series **bh*, **dh*, etc., appear

in many positions as voiceless continuants (*f*, etc.). Indeed, the fact that Venetic shares in this development is an important argument for assuming that Venetic is an Italic language (although the same result is also found in medieval and modern Greek as well).

In morphology the Italic languages preserve six cases in the noun and adjective (nominative, accusative, genitive, dative, ablative, vocative) with traces of a seventh (locative), but the dual of both the noun and verb has completely disappeared. A certain amount of reworking of the inherited material has resulted in the restructuring of nouns and adjectives on the one hand and the verb on the other into five declensions and four conjugations familiar from Latin school grammars. More significantly perhaps, the verb has been restructured so as to emphasize the aspectual difference between completed actions (the *perfectum*) and uncompleted or on-going ones (the *inperfectum*). In the process the older IE distinction, in the past only, of aorist (for completed actions) and perfect (for actions with on-going relevance) has disappeared into the common *perfectum*.

From the position of both morphological innovations and uniquely shared lexical items, Italic shows the greatest similarities with Celtic and Germanic with some of the shared lexical correspondences also being found in Baltic and Slavic. The exact nature of these similarities is not entirely clear and there are no grounds to posit a special branch of the IE languages that would comprise all of these languages.

Origins

The fact that different IE sub-groups occupied the same general region renders the problem of the origins of any or all of the IE peoples of Italy extraordinarily complex. Where related languages are found occupying a confined territory, a linguistic-geographical pattern is naturally sought that might provide a clue to the direction from which the Italian peninsula received its IE speakers. The presumption that they did not originate in Italy itself is supported by several lines of evidence. The first emphasizes that one of the dominant languages of Italy was Etruscan which is generally regarded as non-IE and, although a number of both archaeologists and linguists have sought to derive the Etruscans from the east Mediterranean, this is not the hypothesis supported here. From the viewpoint of physical anthropology, there is little to distinguish the Etruscans from other Iron Age populations of Italy and this similarity may provide some support to the hypothesis that the Etruscans represent a local or autochthonous population. Also, it might be argued that it is unlikely that a sea-borne invasion in the Bronze Age would have achieved such a position of predominance, and such a migration is undemonstrated (there is no single place in the eastern Mediterranean from whence the Etruscans can be convincingly derived from an archaeological standpoint). The primary evidence for an east Mediterranean connection, other than Herodotus' reference to an east Mediterranean origin for the Etruscans, is an inscription on Lemnos in the northeast Aegean which is clearly related to Etruscan. However, with clear evidence for Etruscans in the eastern Mediterranean (the longest Etruscan manuscript was employed as a wrapping sheet about an Egyptian mummy), it is perhaps easier to derive the Lemnian evidence from the west than the Etruscans as a people and language from the east. Consequently, the Etruscans are more likely to be a remnant non-IE population of the central Mediterranean, occupying a role similar to that of the Basques of the Iberian peninsula and southern France but who clearly absorbed various art-styles and an alphabet from their eastern (Greek) neighbors. But to be fair, it should also be emphasized that archaeologists are not in a position to determine whether a migration *did not* happen and it cannot be entirely excluded that the Etruscan language was carried to Italy from the eastern Mediterranean by perhaps merchants, who like the Phoenicians, established colonies in Etruria where they superimposed their language on the local Indo-European population.

It is also proposed that within the Indo-European languages of Italy there are preserved numerous terms that derive from a native substrate "Mediterranean" language which may also be evident in Greece. Terms suggested as non-IE in shape and related to Mediterranean flora include Grk ***λείρον***: Lat *lilium* 'lily' or Grk ***σῦκον***: Lat *fīcus* 'fig' while other alleged substrate terms in Latin include Lat *papāver* 'poppy', *larix* 'larch', *frutex* 'shrub', *cōdex* 'tree trunk', *mūrex* 'a shellfish', *pāpiliō* 'butterfly', etc.

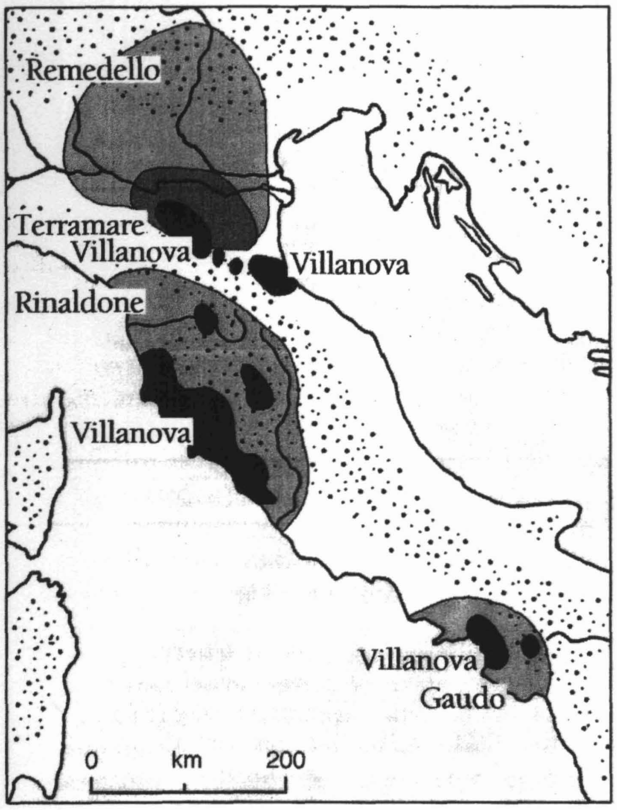
The earliest period seriously regarded as a possible window for an IE intrusion into Italy is the Neolithic for those who hold that the IE homeland lay in central and western Anatolia and the IE languages were spread by populations moving westwards, first into Greece and then into Italy. This model is so sketchily presented with regard to Italy by its proponents that it is difficult to evaluate, although there are serious objections to any model that seeks the spread of the IE languages into Italy as early as the sixth millennium BC. Archaeologically, there is considerable evidence for the persistence of local populations from the Mesolithic to the Neolithic in Italy and hence a simple model of population replacement rather than the acculturation of native hunter-gatherers is suspect. More importantly, derivation of the Italic languages from a Neolithic expansion into Italy from Greece would appear to demand closer linguistic relationships between the Italic and Greek stocks than can be justified and the number of isogloss borders between the two stocks suggests that they had been in considerable separation during their development rather than close proximity. The Italic languages also retain a series of terms reconstructed to PIE such as the 'horse', 'wheel', etc., whose referents simply did not exist in Italy until the Bronze Age. Consequently, the origins of the Italic peoples is traditionally sought in a later period, generally the Copper Age or the Bronze Age with some possible later migration even during the Iron Age. This hypothesis is to some extent supported by the observation that Italic shares a number of isoglosses and lexical terms

Proto-Indo-European and Italic Phonological Correspondences

PIE		Lat	PIE	Lat
*p	>	p	*pórk̂os* 'piglet'	*porcus* 'young pig'
*b	>	b	*belos* 'strong'	*dēbilis* 'weak'
*bh	>	f/b	*bhébhrus* 'beaver'	*fiber* 'beaver'
*t	>	t	*tauros* 'bull'	*taurus* 'bull'
*d	>	d	*dl̥kus* 'sweet'	*dulcis* 'sweet'
*dh	>	f/d	*dheh$_1$lus* 'nourishing'	*fēlīx* 'fruitful,
*k̂	>	c	*k̂(u)u̯ṓn* 'dog'	*canis* 'dog'
*ĝ	>	g	*ĝénu* 'jaw'	*gena* 'cheek'
*ĝh	>	h	*ghaidos* 'goat'	*haedus* 'young goat'
*k	>	c	*kápr̥* 'penis'	*caper* 'he-goat'
*g	>	g	*gl̥h$_1$ís* 'mouse'	*glīs* 'dormouse'
*gh	>	h	*ghóstis* 'stranger, guest'	*hostis* 'host'
*k^w	>	qu	*k^{w}is* 'who'	*quis* 'who'
*g^w	>	v/gu	*g^{w}emi̯e/o-* 'come'	*veniō* 'I come'
			h$_3$ong^{w}en- 'salve'	*unguen* 'salve'
*g^{w}h	>	f/u	*g^{w}hermos* 'warm'	*formus* 'warm'
*s	>	s	*sū́s* 'pig'	*sūs* 'pig'
*i̯	>	i	*i̯ugóm* 'yoke'	*iugum* 'yoke'
*u̯	>	v	*u̯eru̯er-* 'squirrel'	*vīverra* 'ferret'
*m	>	m	*mū́s* 'mouse'	*mūs* 'mouse'
*n	>	n	*neu̯os* 'new'	*novus* 'new'
*l	>	l	*lentos* 'soft'	*lentus* 'soft'
*r	>	r	*rik-* 'tick'	*ricinus* 'tick'
*n̥	>	en	*n̥-* 'un-'	*in-* 'un-'
*m̥	>	en ~ in	*k̂m̥tóm* 'hundred'	*centum* 'hundred'
*l̥	>	ol	*ml̥dus* 'soft'	*mollis* 'soft'
*r̥	>	or	*k̂r̥d-* 'heart'	*cord-* 'heart'
*i	>	i	*pilos* '(a) hair'	*pilus* '(a) hair'
*ī	>	ī	*g^{w}ih$_3$u̯os* 'living'	*vīvus* 'alive'
*e	>	e	*dék̂m̥* 'ten'	*decem* 'ten'
*ē	>	ē	*séh$_1$mn̥* 'seed'	*sēmen* 'seed'
*a	>	a	*sal-* 'salt'	*sal-* 'salt'
*ā	>	ā	*méh$_a$tēr* 'mother'	*māter* 'mother'
*o	>	o	*pótis* 'capable'	*potis* 'capable'
*ō	>	ō	*dóh$_3$nom* 'gift'	*dōnum* 'gift'
*u	>	u	*uteros* 'abdomen'	*uterus* 'abdomen'
*ū	>	ū	*mū́s* 'mouse'	*mūs* 'mouse'
*h$_1$	>	ø	*h$_1$es-* 'be'	*es-* 'be'
*h$_2$	>	ø	*h$_2$óu̯is* 'sheep'	*ovis* 'sheep'
*h$_3$	>	ø	*h$_3$ók^w* 'eye'	*oculus* 'eye'
*h$_4$	>	ø	*h$_4$eu-* 'enjoy'	*aveō* 'I long for, desire'

with Celtic and Germanic, some of which are more likely to be attributed to the Bronze Age.

The next period in which IE intrusions have been suggested is the transition to the Bronze Age where a number of different copper-using cultures (*c* 3500–2500 BC) appear in both northern Italy (the Remedello and Rinaldone cultures) and in the south (the Gaudo culture). It has been suggested that these cultures are intrusive, and they witness the penetration of their respective regions by warrior-aristocracies. Reasons for ascribing these cultures to Indo-Europeans basically center on the appearance of weapons (copper or bronze daggers, arrowheads, stone battle-axes) with some of the burials, the appearance of the horse in Italy at this time, and proposed connections between the material culture of these cultures and central Europe. As a chronological horizon, the Eneolithic (copper-stone age) has more to recommend it than the



Italic II Archaeological cultures that have been associated with Indo-European migrations into Italy. The Remedello, Rinaldone and Gaudo cultures all date to the early Bronze Age (*c* 3300–2500 BC), the Terramare culture dates to the middle Bronze Age (*c* 1500 BC), while the Villanovan culture (darkest shading), dates to the beginning of the Iron Age (*c* 1100–900 BC).

beginning of the Neolithic in that it does not presuppose the existence of Indo-Europeans in Italy before the introduction of animals like the horse (and wheeled vehicles would easily fit into this time frame as well). On the other hand, there is no conclusive evidence for a migration and the ceramic traditions, especially between the Gaudo culture and the other two are so different that they can hardly be ascribed to the same source. Moreover, one of the cultures, the Rinaldone, occupies the area of the later Etruscans who are generally dismissed as non-IE. Many archaeologists today see in the development of these cultures local origins stimulated by more long distant contacts with other cultures in the Aegean, southern France or central Europe.

One of the most popular of the traditional models for IE migrations into Italy has been sometimes dismissed as *pigoriniana*, a term coined after its major proponent. L. Pigorini suggested that the Italic-speaking peoples came across the Alps during the Bronze Age and introduced the Terramare culture (*c* 1500–1100 BC) in northern Italy. This model was consciously an extension of the historically attested movement of Celtic peoples in the Iron Age who also penetrated (and pillaged) Italy from the north. This model sees the Indo-Europeanization of the peninsula essentially in terms of a north to south movement. While there is no question that northern Italy was in close contact with developments north of the Alps, the spread of bronze metalworking traditions from the north or indeed across Europe need not be explained in terms of the movement of an ethno-linguistic group. Moreover, the pattern of language distributions in Italy, especially with non-IE Etruscan lying athwart central Italy, renders a simple north-south movement of language and people an unconvincing explanation for all the IE languages of the peninsula, unless linked to the evidence for other movements as well.

Later migrations from the north are proposed in the formation of both the Proto-Villanovan and Villanovan horizons. These horizons see the widespread distribution of bronze artifacts of general central European types coupled with the expansion of cremation cemeteries clearly associated with the Urnfield phenomenon north of the Alps. The problem with seeing these cultural horizons as reflections of IE immigrations down the Italian peninsula is the fact that both the Proto-Villanovan (1100–900 BC) and Villanovan (*c* 900–500 BC) cultures clearly coincide with the distribution of the historical Etruscans as well as the IE Italic groups (hence some would still argue that the Etruscan represents a late intrusion into Etruria, perhaps coincident with the spread of east Mediterranean artistic styles). On the other hand, the Urnfield culture does provide a convenient background for the emergence of the Celts of western Europe, the Celtic-speaking Lepontians of the Golasecca culture of northern Italy, and it is also dispersed down the length of Italy where we might expect to find the ancestors of the Italic groups. Such a model of Italic origins would at least accommodate those linguists who suggest that Italic and Celtic shared a particularly close dialectal association before their emergence as separate stocks. But the problem of non-IE Etruscans participating in the same cultural phenomenon as well argues that there is no clear archaeological model in which one can discern either IE intrusions or differentiate IE-speakers from non-Indo-Europeans in the immediate protohistoric period.

Finally, a more recent model sees the IE groups of Italy as having been formed by an east-west (Adriatic to Italy) movement where the more archaic dialects of western Italic (Latin, etc.) were pressed against both non-IE Etruscans and the Tyrrhenian Sea by subsequent movements from the east. Possibly the Veneti of northeast Italy might also be seen as early arrivals. This earlier movement is then believed to be followed by the eastern Italic dialects (Osco-Umbrian) which are aligned across central and southern Italy. The final Indo-Europeanization was, it has been suggested, the most recent and included peoples such as the Messapi on the southeast coast of Italy who were presumably linked both archaeologically and linguistically with the Illyrians across the Adriatic. This model has an obvious archaeological attraction for the final wave of IE peoples since cross-Adriatic connections are

archaeologically evident but it does little to resolve the more fundamental problems of establishing the origins of the other IE groups of Italy.

See also **Gaudo Culture**; **Golasecca Culture**; **Messapic Language**; **Picene Languages**; **Remedello Culture**; **Rinaldone Culture**; **Terramare Culture**; **Venetic Language**; **Villanovan Culture**. [D.Q.A., J.P.M.]

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• J •

JACKDAW

Other than Lith *kóvas* 'jackdaw' and Rus *kávka* 'jackdaw', both ostensibly from the onomatopoeic root **kau-* [*IEW* 536 (**kău-*); cf. OInd *káuti* 'shrieks'], terms for the jackdaw vary with each major stock. Armenia sports no term until the Middle Ages when *cayeak*, formerly 'gull' became the standard term for the 'jackdaw'. Confusion with seabirds is also seen in Grk *κολοιός* which may signify a 'shearwater' or 'cormorant' though most commonly the 'jackdaw'. Lat *monedula* 'jackdaw' and OInd *caurikāka-* 'jackdaw' have no suitable etymology though the Old Indic form does exhibit onomatopoeic elements.

The jackdaw is another of the noticeable species of *Corvidae*. It is smaller than the crow, of dark brown color (though usually perceived as black) with a light brown underbelly.

See also Birds. [J.A.C.G.]

JASTORF CULTURE

The Jastorf culture is the earliest Iron Age culture of northern Germany and southern Scandinavia which emerges *c* 600 BC and continued until the end of the millennium. It is divided into three phases: Jastorf (*c* 600–300 BC), Ripdorf (*c* 300–150 BC), and Seedorf (*c* 150–1 BC). Its core area is northeastern Lower Saxony, Holstein, west Mecklenberg and then extends in diminishing "purity" north through Jutland and into southern Sweden and south toward the Weser-Aller region.

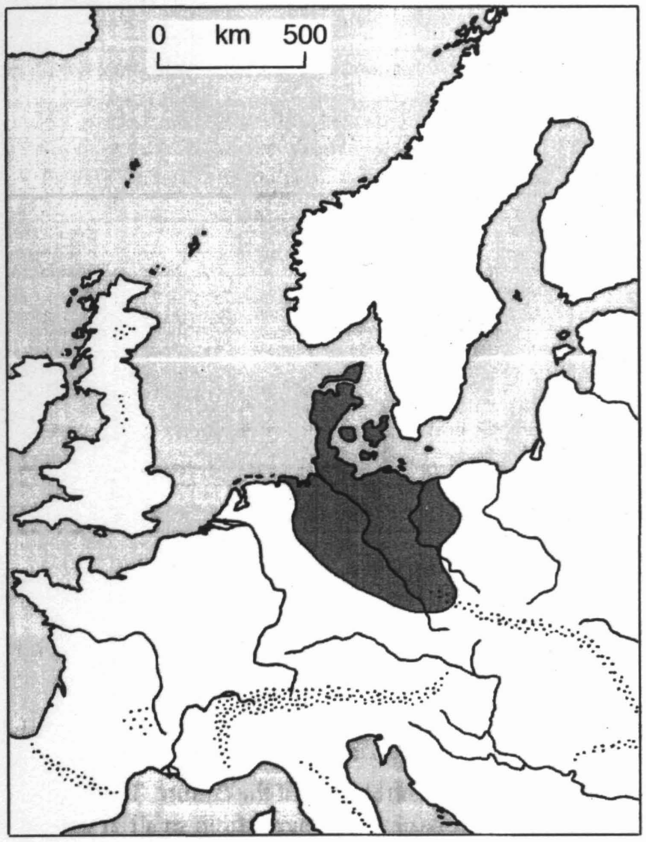
The Jastorf culture was spread over its territory in regional groups where small settlements were clustered into confined areas (settlement cells) separated from one another by forests or other natural barriers such as marshlands. The settlements tend to fall in the same regions as earlier Bronze Age settlements and are evidence for the local continuity of the culture. Actual house structures are better known from the peripheral than the central areas of the culture. These vary in shape, size and construction, ranging from small single room houses about 5 m on a side to long houses some 20 m or more long and subdivided into a series of rooms and stalls. Semi-subterranean structures are also known.

The economy was based on mixed agriculture. Wheat at this time was declining in popularity in some regions in the face of barley. Oats were also raised in abundance although their ultimate destination—people or livestock—is unknown. Millet and flax were the other main plants with rye forming a dubious addition. Among the domestic animals cattle predominated, followed by pig, sheep, goat, dogs and horses. A small amount of hunting (red deer, aurochs, wild pig, and beaver) was practised.

Most of the Jastorf sites are cemeteries. Often these consist of urnfields, i.e., cemeteries of urn burials accompanied by gravegoods such as bronze pins and other ornaments; in some instances unprotected cremation remains were deposited.

The Jastorf culture is regarded as the continuation of the native late Bronze Age culture (albeit under heavy Hallstatt influence) which subsequently adopted stylistic features of the La Tène culture to its south. The local continuity is seen in cemeteries that begin in the late Bronze Age and are used without apparent interruption well into the Jastorf period; the earliest ceramic forms also exhibit clear evidence for continuity. The Hallstatt culture introduced both a large assortment of bronze metal types and iron metallurgy which was adopted by native smiths.

The Jastorf culture is generally considered at least part of the core area of the Proto-Germanic peoples and there has been a tendency to date the first Germanic sound shift to the



Jastorf a. Maximum distribution of the Jastorf culture.

period of the early Jastorf culture, i.e., *c* 500 BC. Contacts between it and its Hallstatt and later La Tène neighbors may coincide with the borrowing of Celtic terms into Germanic as witnessed, for example, by the adoption of Celtic **isarno* 'iron' into early Germanic as **isarna* or the borrowing of a Celtic **rīgos* 'king' to form Germanic **rīkaz* 'king'.

See also GERMANIC LANGUAGES; HALLSTATT CULTURE; LA TÈNE CULTURE. [J.P.M.]

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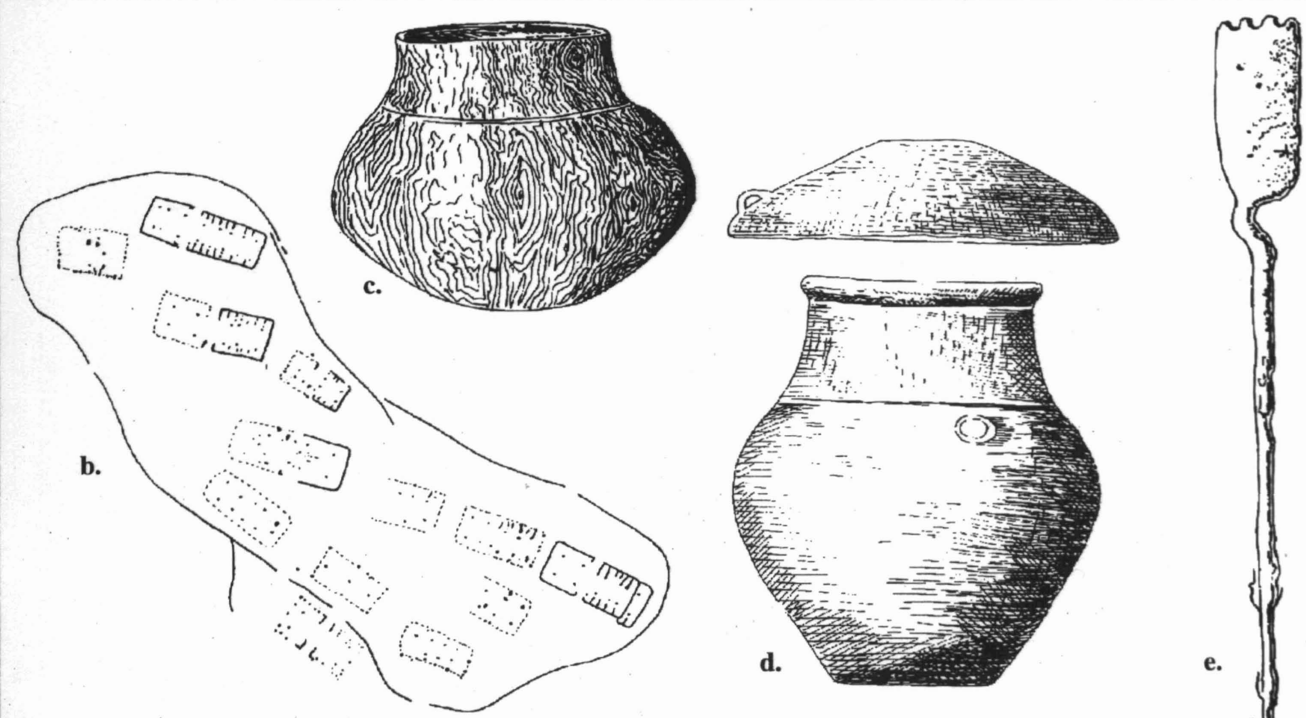
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JAW

***ĝénu-** 'jaw'. [*IEW* 381 (**ĝenu-*); Wat 19 (**genu-*); GI 715 (**k̄'enu-*); Buck 4.207; BK 626 (**k'an-/*k'ən-*)]. OIr *gin* 'mouth', Wels *gên* 'cheek', Lat *gena* 'cheek', ON *kinn* 'cheek', OE *cinn* 'chin, jaw' (> NE *chin*), OHG *kinni* ~ *chinne* 'chin, jaw', Goth *kinnus* 'cheek', Grk *γένυς* 'chin, jaw', Phryg *αζήν* 'beard' (< **h$_1$n̥-ĝen-*'[that which is] on the chin'?), Av *zānu-* 'jaw', OInd *hánu-* (with unexpected initial) 'jaw', TochA (dual) *śanweṃ* 'jaws'. Clearly PIE in status.

***ĝónh$_a$dh-o-s** and ***ĝn̥h$_a$dh-o-s**. 'jaw'. [*IEW* 381 (**ĝonədh-*); Wat 19 (**gnə-dho-*); Buck 4.207]. Lith *žándas* 'jaw, cheek', Latv *zuôds* 'chin', Grk *γνάθος* 'jaw, mouth', Arm *cnawt* 'jaw'. Related in some fashion to the previous entry.

See also ANATOMY; CHIN; KNEE; MOUTH. [D.Q.A.]



Jastorf b. Settlement plan of Grøntoft, Denmark; c. Early Jastorf vessel; d. Jastorf urn; e. Early Jastorf pin.

JAY

***kik̑-(i̯)eh$_a$-** 'jay'. [*IEW* 598 (**kik-*)]. Italian (Calabrian) *cissa* 'jay', OE *hig(e)ra* 'magpie (or woodpecker?)', OHG *hehara* 'jay', Grk κίσσα ~ κίττα ~ κεῖσσα 'jay', OInd *cisa-* 'roller'. The variable semantics are not difficult to explain: the roller is quite similar in shape and behavior to a jay, and is often confused with the jay. Just as the magpie and jay can be confused by the ornithologically untutored (as in Old English) so also can the Armenian term *anceł*, which stands for both species. An OInd *kiki-* 'bluejay' is occasionally cited as cognate but this term is found only in the lexicographers. The term is no doubt onomatopoeic but it was in that shape in the protolanguage and accordingly transferred thus to the dialects.

The jay is well distributed in Europe and the Middle East through to India. They are highly visible birds and, along with the magpie and roller, are quite chatty, a fact noted in all ancient writings that refer to the jay.

See also BIRDS. [J.A.C.G.]

JOIN *see* BIND

JOINT

***kók̑s-o/eh$_a$-** 'hollow of (major) joint'. [*IEW* 611 (**kok̑sā*); Wat 32 (*koksā*); GI 85 (**k^{h}ok̑^{h}-*); Buck 4.35]. OIr *cos* 'foot', Lat *coxa* 'hip', OHG *hāhsa* 'back of knee', Av *kaša-* 'armpit', Khot *kāṣa-* 'loins', OInd *kákṣa-* 'armpit, groin', TochB *kakse* (< **k$_e$k̑s-ó-*) '± midriff, loins'. From **kok̑es-* 'inner part, nook' (cf. OInd *káśas-* 'inner part', Khot *kasā-* 'inner part, nook'). Geographically widespread and of PIE status.

See also ANATOMY; ARM; LEG. [D.Q.A.]

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JUICE

***sûleh$_a$-** '± (fermented) juice'. [*IEW* 912–913 (**su-lā-*); cf. GI 563; BK 191 (**saw-al-/*saw-əl-*)]. OPrus *sulo* 'curdled milk', Lith *sulà* 'sap/wine from birch trees', Latv *sula* '(birch) sap', Av *hurā* 'kumiss', OInd *sū́ra-* 'intoxicating beverage'. Cf. OE *sol* (< **sulom*) 'mud, wet sand, wallow'. At least a late PIE word in the center and east. From **seu(h$_x$)-* 'express (a liquid)'.

See also BEER; BROTH; FERMENT; SACRED DRINK. [D.Q.A.]

JUMP

***preu-** 'jump'. [*IEW* 845–846 (**preu-*); Wat 53 (**preu-*); GI 452 (**p^{h}reu-*); Buck 10.43]. The underlying verb is attested only in Rus *prytĭ* 'run quickly', OInd *právate* 'jumps, hastens'. Cf. ON *frār* 'quick', OHG *frō* 'strenuous, quick; glad, joyful', OInd *plava-* (with dialect *l-*) 'frog'. Attested only on the peripheries of the IE world, this word is undoubtedly old.

***preug-** 'jump'. [*IEW* 845–846 (**preu-*); Wat 53 (**preu-*); GI 452 (**p^{h}reu-*)]. ON *frauki* 'frog', OE *frogga* 'frog' (> NE *frog*), Lith *sprūgti* 'leave, escape', Rus *prýgnutĭ* 'leap', *prýgatĭ* 'jump about, jump up and down', TochB *pruk-* '± make a leap; get away from; overlook, neglect'; also ON *froskr*, OE *frosc* ~ *forsc*, NHG *frosch*, all 'frog' if deverbative from **prug-sk̑e/o-*. An enlargement of the previous verb. At least a late PIE verb in its own right.

***h$_1$leig-** 'jump' (pres. ***h$_1$lóigei**). [*IEW* 667–668 (**leig-*); Wat 36 (**leig-*)]. ON *leika* 'play, swing', OE *lācan* 'leap, fly', MHG *leichen* 'jump up, bend, mock at', Goth *laikan* 'jump, hop', Lith *láigyti* 'run around wildly', Grk ἐλελίζω 'whirl around', NPers *ālēxtan* 'jump, kick (of a horse)', OInd *réjate* 'trembles'. Widespread and old in IE.

***lek-** 'jump, scuttle along, bulge (of muscles)'. [cf. *IEW* 673 (**lek-*); Wat 36 (**lek-*)]. Norw (dial.) *lakka* 'hop, patter about', MHG *lecken* 'hop', Lith *lekiù* 'fly', *lakùs* 'fleeting, shaking', Latv *lęcu* 'jump', and from an iterative-intensive present **lēk-eh$_a$-i̯e/o-* we have Latv *lēkāju* 'jump about', Grk ληκάω 'dance to a song'. Cf. Lat *lōcusta* ~ *locusta* 'locust; lobster', *lacerta* 'lizard', *lacertus* 'muscle (esp. of the upper arm)', ON *leggr* (< **loki̯ó-*) 'leg, bone', OE *līra* (< **lekesón-*) 'any fleshy part of the body, calf of the leg' (> NE *lire*), Grk (Hesychius) λικερτίζω (< **l$_e$kert-*) 'jump, bound', TochA *lyäṣkäṃ* (< **leks(e)ko-*) (dual) '± haunches'. At least a late word in PIE. The identity of the Latvian and Greek iterative-intensive verb is remarkable.

***dher-** 'leap, spring'. [*IEW* 256 (**dher-*); BK 176 (**ʒar-/*ʒər-*)]. MIr *dar-* 'spring, leap', Grk θορός 'semen', θοῦρος 'rushing, raging', θρῴσκω 'leap, spring, attack, assault', OInd *dhārā* 'flood, rush'. The apparent agreement of Irish on the one hand and Greek and Indic on the other would strongly suggest PIE status for this word.

***sel-** 'jump' (pres. ***sl̥i̯e/o-**). [*IEW* 899 (**sel-*); Wat 57 (**sel-*); Buck 10.43; BK 186 (**sal-/*səl-*)]. Lat *saliō* 'jump, hop', Grk ἅλλομαι (< **sali̯o-*) 'jump, hop', Geographically restricted but probably at least late IE. A semantic specialization of **sel-* 'move quickly'.

***k̑eh$_a$k-** 'jump'. [*IEW* 522 (**k̑āk-*); Buck 10.43]. Lith *šókti* 'jump, dance', Grk κηκίω 'jump'. A late word limited to the center of the IE world.

***skand-** 'jump'. [Wat 58 (**skand-*); Buck 10.43]. OIr *sceindid* (*DIL sceinnid*) 'leaps', Wels *chwynnaf* 'leap', Lat *scandō* 'climb', *scālae* (pl.) (< **skandsleh$_a$-*) 'stairway', OInd *skándati* 'jumps, falls down, spurts out'. Attested only in the marginal IE stocks, this word must be old in IE.

***skek-** '± jump'. [*IEW* 922–923 (**(s)kek-* ~ **skeg-*)]. OIr *scochid* (*DIL scuchaid*) (< **skoketi*) 'yields, goes away, perishes', ON *skagi* 'point of land sticking out', OE *scēon* 'fall (to), occur; go quickly, fly', OHG *scehan* 'hasten, go away quickly', Lith *skataũ* (with dissimilation **skok-* > **skot-*) 'jump', OCS *skočiti* 'jump', probably OInd *khacati* 'projects (of teeth)' (with MInd *kh-* for **sk-*), TochAB *skāk* 'balcony' (< *'that which projects'). Cf. perhaps Grk (Hesychius) (pl.) κεκῆνες 'hares'. We have evidence here of a verb that is

widespread and surely old in IE.

sker- '± hop about'. [*IEW* 933–935 (**(s)ker-*); Wat 60 (**sker-*)]. OE *secge-gescēre* 'locust', OHG *scerōn* 'be mischievous', Lith *skerỹs* 'locust', OCS *skorŭ* 'quick', Grk ***σκαίρω*** 'jump, hop, dance'. A word of the west and center of the IE world. The third PIE word meaning 'jump' that begins with **sk-*.

See also COME; CRAWL; DRIVE; GO; HURRY. [D.Q.A.]

JUNAZITE

Junazite is a tell site in Bulgaria with evidence for settlement extending from at least the Eneolithic period to the early centuries AD. The site is the westernmost of the five hundred or more large Bulgarian tell sites whose occupation began in the Neolithic. Junazite is some 12 m high and measures *c* 100 to 140 m in diameter. Its importance in the discussion of Indo-Europeans lies in the evidence for a marked cultural break at about 3500 BC between the Eneolithic Krivodol-Salcuţa layers and the succeeding early Bronze Age levels which in terms of architecture, ceramics and metallurgy, have been tied into a wider Circum-Pontic province that extended from the northwest of the Black Sea to northwest Anatolia, e.g., the Ezero culture, Troy. Within the "Kurgan theory" of IE origins, this cultural break marks the establishment of IE chiefdoms throughout the Balkans with the emergence of citadels such as Ezero and Junazite. The importance of the latter site is emphasized by the fact that the final Eneolithic settlement was not only destroyed and burnt but the remains of forty-six individuals have been found deposited in the collapsed dwellings before the early Bronze Age settlers had established themselves. Such evidence has been employed by supporters of the Kurgan theory to illustrate the violent nature of the IE conquest of the Balkans.

See also CERNAVODA CULTURE; EZERO CULTURE; KURGAN TRADITION. [J.P.M.]

Further Reading

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JUNIPER

***$h_1$eleu̯-** 'juniper, cedar'. [*IEW* 303 (**el-*); GI 545 (**el-*); Fried 38-49]. Rus *jálovec* 'juniper', Grk *ἐλάτη* 'pine, fir; oar', Arm *elevin* 'cedar'. A word of at least the center of the IE world.

The ambivalent meaning, 'juniper' or 'cedar' is necessary for three reasons: 1) members of cognate sets that are phonologically probable sometimes refer to one or both trees; 2) a non-cognate word like Theophrastus' ***κέδρος*** is used for either tree; 3) the similarity of the trees in terms of berries and tough rubbery wood. In some cases the word seems to have shifted to the 'fir' or 'spruce' (e.g., because the cedar/juniper was lacking in the area, or for functional reasons—the use of fir/spruce in boat-building). The main reflexes of **$h_1$eleu̯-* on phonological grounds appear to be a Slavic set (including Russian dialectal *jálovec* 'juniper'), Armenian *elevin* 'cedar'; Slavic, as in Rus *jel* 'fir'; and the Greek word which was employed not only to designate 'fir' (*Odyssey* 5.239) but also for 'oar' and 'canoe' or a similar boat by a metonymic extension (like 'spear' for 'ash' or 'bow' for 'yew') that is close enough to the universal to be found in other parts of the world, e.g., among American Indians.

The Grk ***κέδρος*** 'juniper, cedar' is sometimes compared with OPrus *kadegis* 'juniper', Lith *kadagỹs* 'cedar', and Latv *kadęgs* 'cedar' but the connection between the Greek and Baltic forms is unclear and the latter are most probably borrowed from the Uralic languages, particularly Balto-Finnic, e.g., Finnish *kataja* 'cedar', Estonian *kadakas* 'cedar'.

Both cedars and junipers extended from the frozen moors of northern Europe southwards to the Mediterranean and formed an understory to coniferous stands or acted as pioneers on dry, barren soil.

See also REED; TREES. [P.F.]

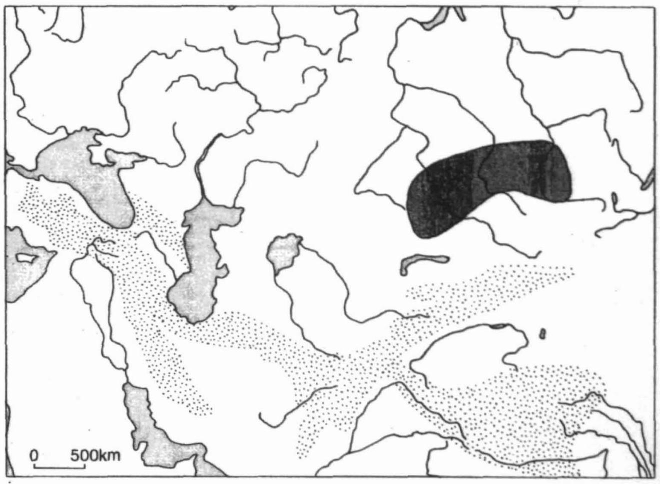
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KARASUK CULTURE

This Bronze Age culture of the eastern steppe lands ranged from the Aral Sea on the west to the Yenisei on the east and south to the Altai Mountains and Tien Shan. This distribution covers the eastern portion of the Andronovo culture which it appears to replace. The culture is dated to the period *c* 1500–800 BC.

The evidence for settlements is minimal. The few that have been excavated indicate both small semi-subterranean houses and larger (100–200 m^2) "winter" houses, typologically similar to those erected among Siberians with domed or pitched rooves covered with earth to protect against the cold. The houses reveal storage pits and hearths and a variety of domestic artifacts. The economy was based on mixed agriculture and stockbreeding: cattle, sheep and horse are all found, and there has been a presumption at least that the Karasuk culture was more markedly mobile than the earlier Andronovo. On the other hand, querns are also found as well as bronze sickles which indicate plant processing and whatever form of mobile economy might have existed, it would appear to have been only seasonal with permanent agricultural settlements as well. It is presumed that the Karasuk communities pastured their sheep at higher elevations in the summer and then returned to somewhat more permanent settlements in the river valleys during the winter.

The Karasuk culture is almost exclusively known from its cemeteries from which two thousand burials have been excavated. Although there are regional varieties of mortuary practice, the typical burial is placed within a cist built of stone slabs which may be covered by a small mound. The burial was then surrounded by a rectangular enclosure built of stone slabs. The deceased was generally placed in the extended position or with legs slightly flexed; orientation was often to the west or southwest. Grave goods included one or two vessels at the head and remains of a sheep at the feet; the latter might be accompanied by a knife and was regularly divided into four basic cuts: shoulder, ribs, thigh and shin.

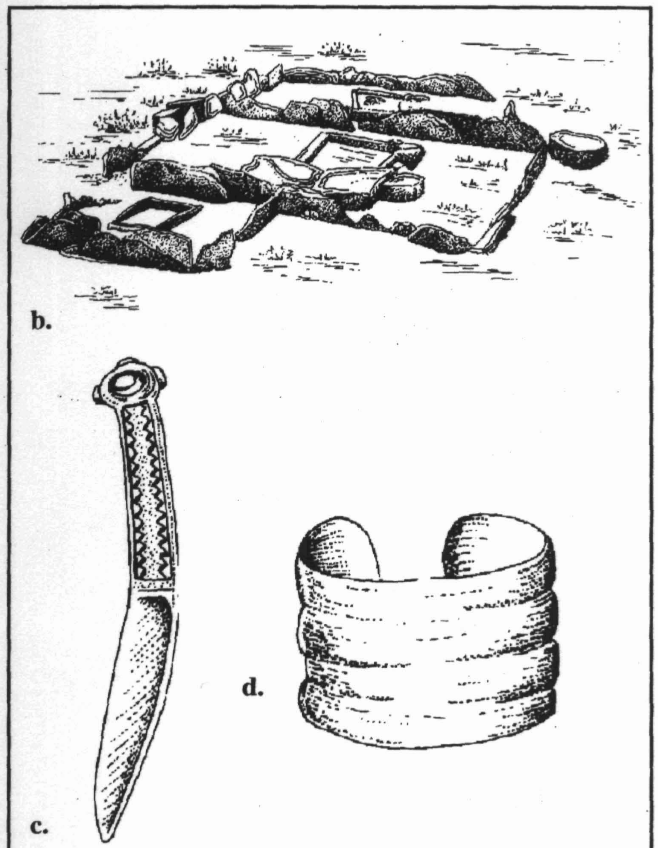


Karasuk a. Distribution of the Karasuk culture.

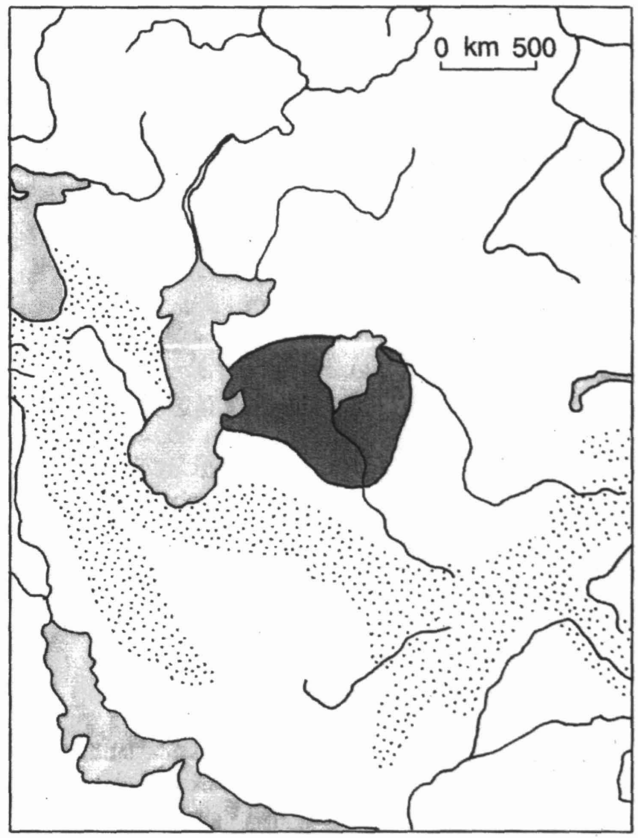
The culture is especially known for its knives and daggers, sometimes with ornamented hilts. Other tools are also produced of (arsenical) bronze and include axes, awls, and arrowheads (of flint or bone). Bronze and copper ornaments (bracelets, rings, pendants) are also recovered from female burials.

The origins of the Karasuk culture are complex but it is generally accepted that its roots lay both with the Andronovo culture and the local cultures of the Yenisei.

The ethnic identity of the Karasuk culture is extremely



Karasuk b. Karasuk grave at Kyurgenner I; c. Karasuk dagger; d. Bracelet.



Kelteminar a. Distribution of the Kelteminar culture.

problematic. Although the Andronovo culture is normally presumed to be associated with the Indo-Iranians (or a subgroup of this super-stock), the local cultures of the Yenisei have often been regarded as unconnected with the steppe cultures and, consequently, with the spread of the Indo-Europeans. Nevertheless, a specifically Proto-Iranian identity has been proposed for the Karasuk culture.

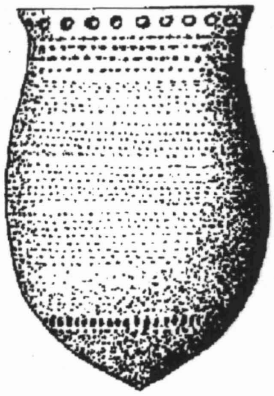
See also **Andronovo Culture**. [J.P.M.]

KELTEMINAR CULTURE

Among the early Neolithic cultures southeast of the Caspian Sea was the Kelteminar culture that dates *c* 4000–2500 BC. The sites were distributed largely over what is now desert but during the period of its existence clearly more favorable conditions prevailed. There are some thousand Kelteminar sites known although these consist almost entirely of lithic scatters. A few settlements have been investigated such as Djanbas 4 which revealed a very large (24 x 17 m) post-built hut. The size of this structure has suggested some form of large co-operative social unit very much different than that obtaining from neighboring agricultural villages of Central Asia or the Near East. Economic remains from the sites include primarily evidence of hunting and fishing although some domestic animals have also been recovered. In general, the Kelteminar populations are believed to have survived by a mobile form of economy which included both hunting and stockbreeding although some later sites have also produced sickle blades and grinding stones. Later sites have also yielded evidence of copper and turquoise working.

The Kelteminar culture has on occasion been connected with the development of early stockbreeding societies in the Pontic-Caspian region, the area which sees the emergence of the Kurgan tradition, which has been closely tied to the early Indo-Europeans. This association was based on the discovery of sheep remains in cave sites in the southeast Caspian and the later appearance of sheep in the southern Urals and north of the Black Sea; also, general similarities were seen between the round-bottomed pottery of the Kelteminar culture and those of the earliest Neolithic cultures of the steppe. Links between the two regions are now regarded as far less compelling and the Kelteminar culture is more often viewed more as a backwater of the emerging farming communities in Central Asia than the agricultural hearth of Neolithic societies in the steppe region.

See also **Djeitun Culture**. [J.P.M.]



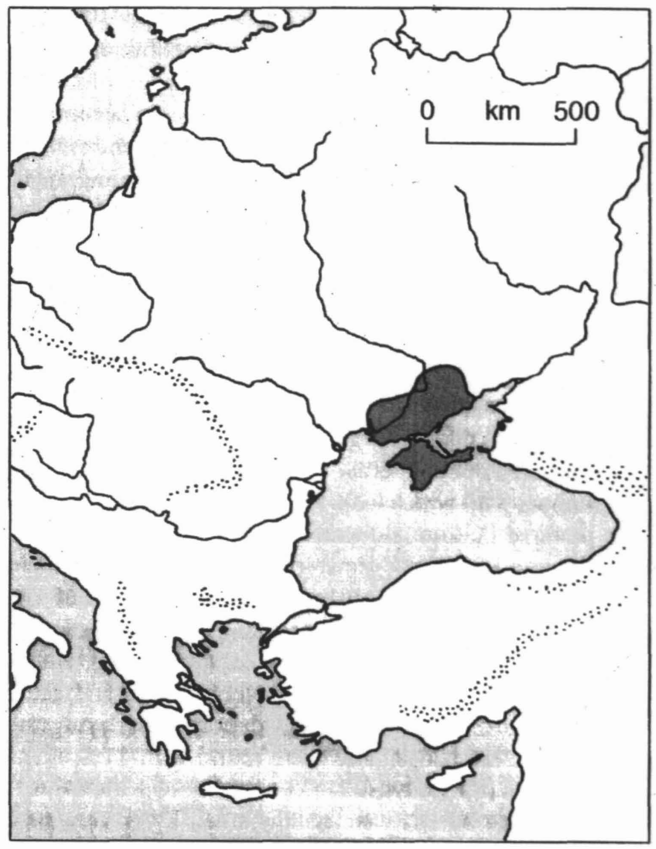
Kelteminar b. Pointed-based pot.

KEMI OBA CULTURE

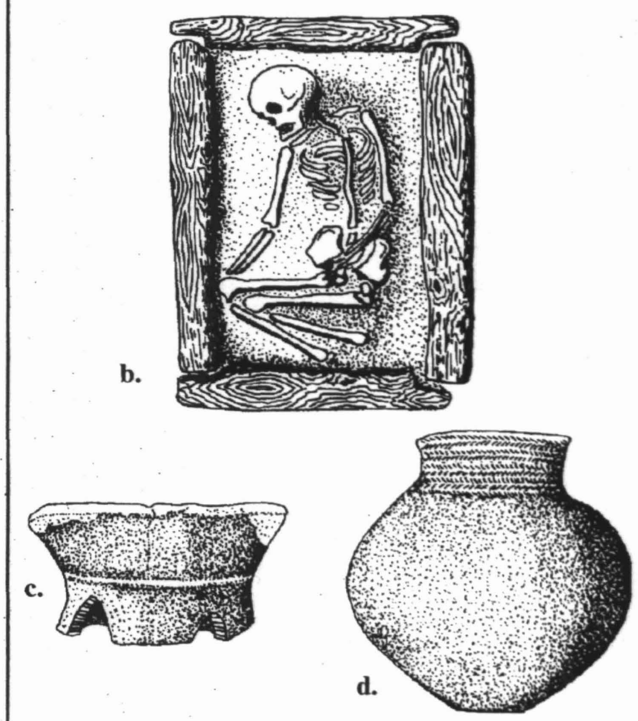
One of the constituent elements of the Kurgan tradition, the Kemi Oba culture dates *c* 3700–2200 BC. It occupied the Crimea (it derives its name from a kurgan burial in the peninsula) and the area immediately north, particularly the area between the lower Bug and Dnieper rivers. The economy was based on both stockbreeding (cattle, sheep/goat, pig and horse) and agriculture (sickle blades, stone querns). Tools and weapons were manufactured primarily out of stone and included arrowheads, dagger blades, scrapers, and sickle blades. Most metal artifacts appear to have been imported from the Maykop culture as they were made of arsenical bronze and included typical Maykop forms, e.g., shaft-holed axes, double-edged knives, spear-points. But there is some evidence for local production of pure copper implements, e.g., a fork-like instrument and an ax; moreover, metal-working tools have been found in a Kemi Oba burial.

The culture is best characterized by its flexed burials, in pits or stone cists, which were covered by a kurgan. The stone cists were sometimes decorated with engravings or paintings among which tree-like motifs are common. Pit-graves may also have been lined with wooden slabs. The ceramics are more finely made than those of their steppe neighbors and exhibit possible connections with the Lower Mikhaylovka and Maykop cultures.

Of particular interest are a series of stone stelae or statue-menhirs, human figures up to life-sized shape, which were apparently erected in religious sanctuaries. These are distributed over the Crimea and the steppe region of the Ukraine in the hundreds and are generally found as coverings of Yamna burials and, occasionally, Catacomb burials. Most of these are schematic and their position as roofing slabs appears to be secondary to their original use. As their distribution coincides broadly with the Kemi Oba territory, it has been suggested that they were originally an important ritual component of this culture and then only secondarily employed to cover graves by their successors.



Kemi Oba a. Distribution of the Kemi Oba culture.



Kemi Oba b. Cist burial; c. "Censer"; d. Kemi Oba vessel.

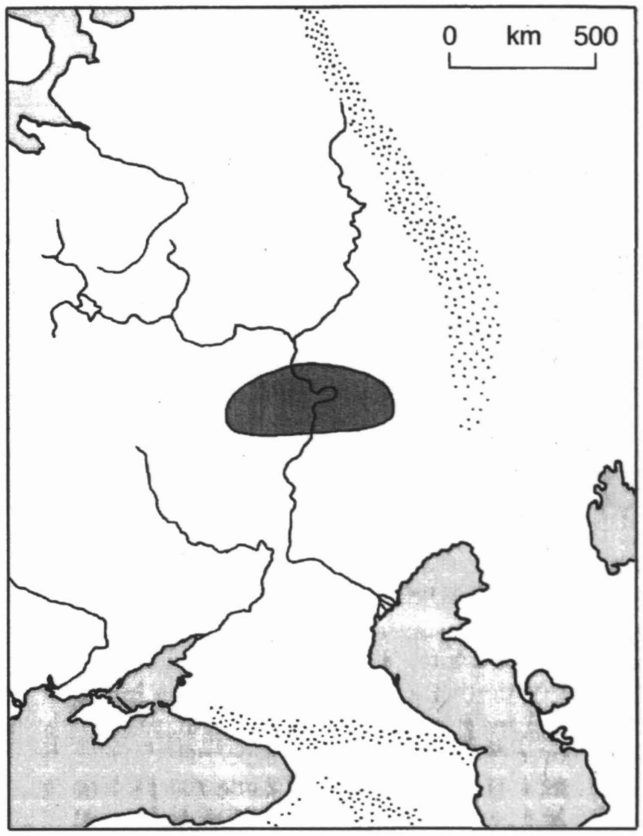
In addition to the many schematic or simple stelae are also a small series of finely carved statue-menhirs depicting human figures, mainly males but also females, which are covered with human and animal figures, weapons, anatomical features and ornament. The presence of weapons and animals on them has led to their interpretation as iconographic reflections of IE sky and thunder gods or of the Puruṣa of Vedic mythology.

See also CATACOMB CULTURE; COSMOGONY; KURGAN TRADITION; MAYKOP CULTURE; STELAE; YAMNA CULTURE. [J.P.M.]

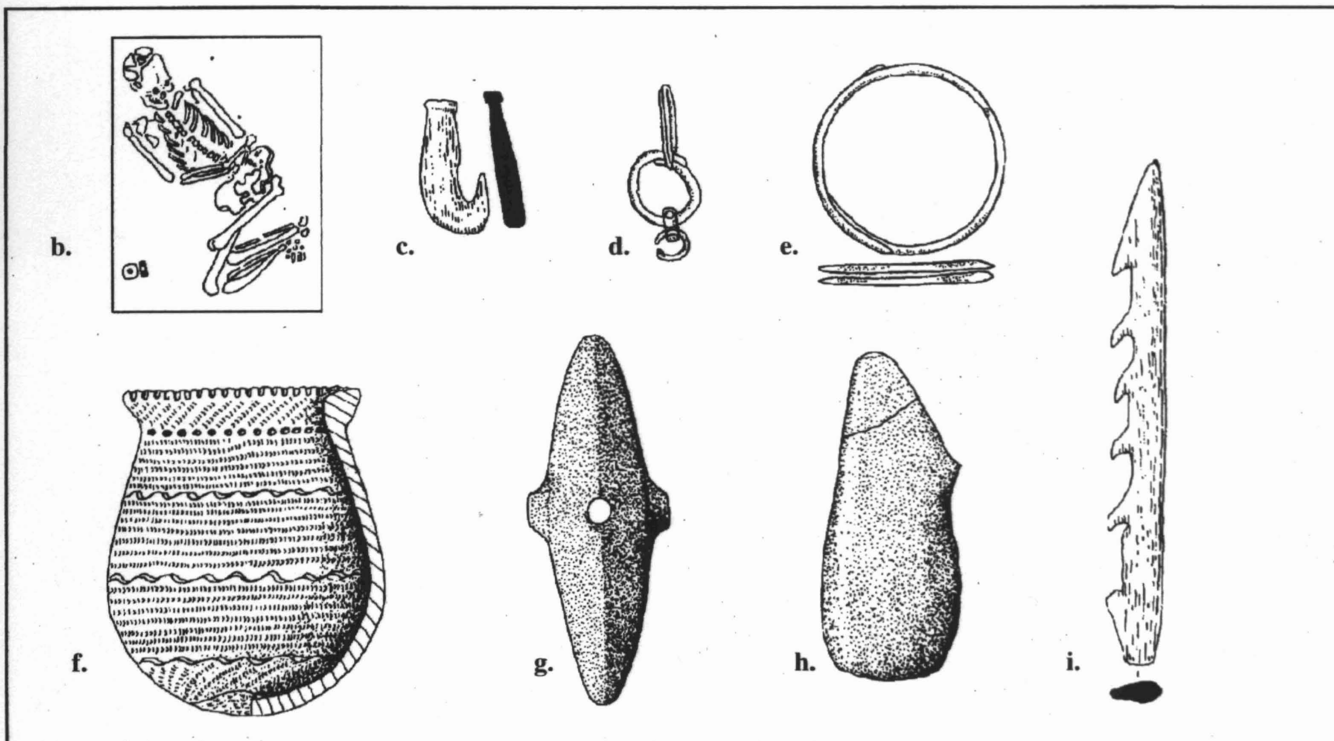
KHVALYNSK CULTURE

The Khvalynsk culture is a Copper Age culture (*c* 4900–3500 BC) of the middle Volga region. This culture appears to be the eastern contemporary of the Sredny Stog culture of the Ukraine, with which it shares a number of similarities in both material culture and ritual behavior. Its name derives from the two Khvalynsk cemeteries (near the modern town of Khvalynsk) where there were both individual burials and group burial pits, perhaps related to family groups. The burial rite, deposition on the back with knees drawn up, is also typical of the Sredny Stog culture. Horse, sheep and cattle remains were discovered as ritual deposits overlaying the burials while animal remains were found with 17% of the 158 skeletons of Khvalynsk I.

Many of the burials were accompanied by grave goods, e.g., bead necklaces, pots, and arrows. Copper grave goods, particularly rings, had been imported from the Balkans and



Khvalynsk a. Distribution of the Khvalynsk culture.



Khvalynsk b. Burial; c. Fishhook; d. Copper rings; e. Copper bracelet; f. Pot; g. Stone "ax"; h. "Scepter"; i. Antler harpoon.

stone "maceheads", also attributed to Copper Age cultures in the west, were recovered. Among the more unusual finds was a stone "scepter" which has been compared with other "horse-headed" scepters that have been found across the steppe into the northeast Balkans.

The Khvalynsk culture appears to be a regional reflection of a large interaction sphere over the European steppe during the Copper Age. It is recognized as one of the constituent elements in the formation of the Yamna cultural-historical region and forms one of the fundamental components of the Kurgan tradition from which many derive the earliest Indo-Europeans.

See also KURGAN TRADITION; SREDNY STOG CULTURE; YAMNA CULTURE. [J.P.M.]

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KICK

sperh₁- 'kick, spurn'. [*IEW* 992–993 (**sp(h)er-*); cf. Wat 64 (**sperə-*); GI 48 (**spʰer-*)]. Lat *spernō* 'separate; spurn', ON *sperna* 'kick, spurn', OE *spurnan* 'kick, spurn' (> NE *spurn*), OHG *spurnan* 'kick, spurn', Lith *spirti* 'oppose, defy', Latv *spert* 'kick', Grk *σπαίρω* 'palpitate, give a start', Hit *ispar-* 'tread down, destroy, spread out', Av *spar-* 'spring, tread', OInd *sphurâti* 'springs, spurns'. Unproblematic and distribution supports PIE status. The Hittite form may be the result of conflating two separate IE roots, one meaning 'strew' and the other 'kick'. The underlying meanings of both 'kick' or 'move the feet' and the more abstract 'spurn' are attested in the daughter languages.

See also HEEL; JUMP. [M.N.]

KIDNEY

h₂eh₂(e)r- '± kidney'. OIr *āru* 'kidney, gland', Wels *aren* 'kidney, testicle' (Celtic < **ār-en-*), Hit *hah(a)ri-* '± lungs' or '± kidneys' (some paired internal organ), TochA *āriñc* 'heart', TochB *arañce* 'heart' (Toch < **ārä-ñc-*); perhaps here also Lat *rēnēs* (pl.) 'kidneys' (if < unreduplicated **h₂r-én-*). The oldest reconstructible term for 'kidney' in PIE.

(h₁)negʷhrós 'kidney'. [*IEW* 319 (**neguh-ró-s*); Wat 44 (**negʷh-ro-*)]. ON *nýra* 'kidney', ME *nēre* 'kidney', OHG *nioro* 'kidney', Grk *νεφρός* 'kidneys'. Cf. the derivative Lat (Praenestine) *nefrōnēs* 'testicles' (because of their kidney-like shape). Perhaps from **h₁engʷ-* 'swell'. A newer word than **h₂eh₂(e)r-*, occupying a dialectally central position vis-à-vis the more peripheral **h₂eh₂(e)r-*.

See also ANATOMY. [D.Q.A.]

KING

u̯(n̥)nátks (gen ***u̯nátkos***) 'leader, lord'. [GI 654–655]. Myc *wa-na-ka* 'king', Grk *(ϝ)άναξ* 'ruler, lord, prince', *(ϝ)άνακες* (pl.) 'the Dioskouroi', *(ϝ)άνασσα* 'queen', TochA *nātäk* (pl. *nācki*) 'lord', *nāśi* (pl. *nāśśāñ*) 'lady'. Greek has generalized the variant **u̯n̥nátks* while Tocharian has generalized **u̯nátks*. Greek forms such as *(ϝ)άνακες* 'Dioscūrī' without a *-t-* may be back-formations from the nominative *(ϝ)άναξ* (< **wanakts* < *wanatks*) and/or the feminine *(ϝ)άνασσα* (< **wánaćća* < **wánatćća* < **wánatkya*) since the stage **-ćć-* would imply a masculine **-k-*. (The recessive stress of *(ϝ)άναξ* is analogical to the morphologically regular recessive stress of *(ϝ)άνασσα* and/or the recessive stress of the vocative.) The shape of **u̯natk-* looks rather un-Indo-European and it may betoken an early borrowing from some unknown source. However, a root of that shape is not totally unprecedented (cf. **h₂retk̑-* 'harm' in Av *raš-* 'harm' and **h₂retk̑-es-* 'danger' [OInd *rákṣas-* 'damage, injury', *rakṣás-* 'demon', Av *rašah-* 'damage, ruin'] and **h₂ŕ̥tk̑-os* 'bear') and thus may represent a purely IE inheritance. In any case, the agreement of Greek and Tocharian A is certainly striking and argues for at least a dialectal existence of this word in late PIE.

h₃rḗĝs ~ ***h₃rḗĝ-on-*** 'ruler, king'. [*IEW* 855–856 (**rēĝ-s*); Wat 54 (**rēg-*); GI 654 (**rek̑-*); Buck 19.32; BK 591 (**rak'-/*rək'-*)]. From **h₃rḗĝs* (gen. **h₃rēĝos*) we have: OIr *rī* (gen. *rīg*) 'king', Gaul *-rix* 'king' (in personal names), Lat *rēx* 'king', Av *bərəzi-rāz-* 'ruling in the heights', Khot *kathi-rāysa-* '± mayor' (< *'town-ruler'), *rrāspūra-* 'prince', *rrāysduar-* 'princess' (< Proto-Iranian **raz(i)-puθra-* and **raz(i)-dugdar-* respectively), OInd *rā́j-* 'king', *sam-rā́j-* 'overlord', *adhi-rājá-* 'overlord'. From **h₃rḗĝ-on-* we have: OIr *rígain* (*DIL rígan*) 'queen', Wels *rhiain* 'maiden' (< Proto-Celt **rīganī-*), Lat *rēgīna* (< **rēgnī-nā-*) 'queen', Khot *rrāysan-* 'lord, ruler' ('king' is a different word), *rrīna* 'queen', OInd *rā́jan-* 'king', *rā́jñī-* 'queen', *sam-rā́jñī* 'wife of an overlord', *rājanyá-* 'royal'. Other widespread derivatives are **h₃rēĝ-i̯o-m* 'kingdom, power' [*IEW* 855–856 (**rēĝi̯om*)] in OIr *rīge* 'kingdom', Khot *rāsa-* (< **rāzya-*) 'power, might'; OInd *rā́jyam* 'kingdom'; **h₃rēĝ-i̯o-s* 'royal' [*IEW* 855–856 (**rēĝi̯os*)] in Lat *rēgius* 'royal' and OInd *rājyá-* 'royal'.

The traditional and still majority view is that in the word for 'king' we have an agent noun derived from **h₃reĝ-* 'stretch out the arm; direct' (cf. the derived **h₃reĝtos* 'right, correct'). The traditional view is bolstered by certain of the Khotanese forms (those for 'prince', 'princess' and 'queen') which show the short vowel originally appropriate to the non-nominative forms; elsewhere the long vowel of the nominative has been generalized in this word and its derivatives.

This traditional explanation has, however, been challenged on several grounds. Andrew Sihler found both the form (the apparent invariant **-ē-*; he did not take into account the Khotanese forms) and the semantic difficulties in deriving the concept of 'king' from 'stretching out one's arms' problematic. He resolved the problem by postulating the existence of two separate roots, **h₃reĝ-* 'stretch out' and **reh₁ĝ-* 'be efficacious'. The latter root would, in Sihler's opinion, also appear in OInd *úrj-* ~ *ūrjá-* 'strength, nourishment'. Moreover, Hartmut Scharfe has suggested that we cannot be entirely certain that OInd *rā́j-* means 'king'; it is

possible that this word is a feminine abstract meaning 'strength, power'. Thus whether or not this complex of words is derived from *$h_3$reĝ-, there would not, under this hypothesis, be a direct, formal equation between Old Indic on the one hand and Italo-Celtic on the other thus throwing the existence of a PIE 'king' into further doubt.

However, neither of these "revisionist" hypotheses is really compelling. If OInd *ū́rj-* were really a zero-grade *$\underset{\circ}{r}h_1$ĝ-, we might expect **īrj-* instead, while the actual *ūrj-* is explained if we reconstruct **u̯$\underset{\circ}{r}h_1$ĝ-* and compare Sogd *wrz'yw* 'haughty' (< *'swollen') and, more distantly, Hit *wargant-* 'fat'. So too, starting from **reh$_1$ĝ-* rather than **$h_3$reĝ-* makes it difficult to account for certain Iranian forms such as Khot *rräspūra-* 'prince' or the obviously related (and quite archaic) paradigm of Av *rāzārə* (gen. *rāzəng*, instrumental *rašnā*) 'directive, statute'. Finally, collocations such as *rā́ṭ agnís* (*RV* 6.12.1) would certainly seem to demand a translation '± king Agni'.

The linguistic evidence is supported by certain cultural data. Thus the complex set of Roman rituals connected with the *Rēx sacrōrum* 'the sacred king', including the ritual of the *Equus October* 'the October Horse', in which a winning racehorse is slaughtered and cut apart, its tail brought to the Rēgia, matches in their essentials the ancient Indian rite of the *aśvamedha*, performed at the coronation of a king. In ancient Irish tradition also the king is symbolically wed with a slaughtered horse. The agreement of these geographically peripheral traditions in connecting a particular horse sacrifice with kingship (and sharing the same designation for 'king') is striking. It should be noted that the pre-Christian kingship of the various IE groups involved both the secular and the sacred monarchy. Indeed, even in situations where the monarchy itself disappeared, as in Rome or Athens, the title (*rēx* and *βασιλεύς* respectively) and office remained in its priestly function.

The underlying verb appears in OInd *rā́ṣṭi* 'rules' and Lat *regō* 'guide, direct; govern, administer'. Together these suggest a PIE paradigm (3rd. sg.) **$h_3$réĝti*, (3rd. pl.) **$h_3$réĝn̥ti* (cf. the derivative 'statute, directive' **$h_3$réĝr̥*, gen. **$h_3$réĝn̥s*, preserved in Avestan). It is possible that this **$h_3$reĝ-* is distinct from **$h_3$reĝ-* 'stretch out the arm'. (In which case we should reconstruct **(h_x)reĝ-* for 'king'.) The latter is generally explained by the practice observed in various IE traditions where the priest lays out the sacred precinct (the extended arms employed either to lay out the lines straight or used as a unit of measurement [cf. NE *span*]). Alternatively, the former root is also quite plausible as there seems to be no reason not to see 'direct, rule' as a metaphorical extension (of PIE age) of 'stretch out the arm'.

***$h_a$énsus** (gen. ***h_an̥sóus**) 'god, spirit; vital force' < '?king'. [*IEW* 48 (**ansu-*); GI 653; BK 369 (**an-aħ-/*ən-aħ-*)]. ON *ōss* 'god' (gen. *āsir*, nom. pl. *æsir*), OE *ōs* (gen. pl. *ēsa*) 'god', Goth (as reported by Jordanes) *anses* 'half-gods', Av *aŋhu-* 'lord, overlord; life (period) of existence', *ahura-* (< **h_an̥su-ró-*) 'god, lord', *Ahura-mazda-* (the highest of gods), OInd *ásu-* 'powerful spirit', *ásura-* 'divine, mighty; god, lord' (also a designation for a particular class of gods). Sometimes put here is Venetic *ahsu-*, supposedly 'idol'. However, it does not exist, having been "created" by wrongly putting two fragmentary inscriptions together which do not belong with one another.

Further connections are a matter of controversy. This **$h_a$énsus* has long been thought to be related to **$h_a$en(h_1)-* 'breathe' (and thus might mean 'spirit' or 'inspirator' or the like). Probably the most widely accepted hypothesis, on the other hand, is that which sees this set related to Hit *hassu-* 'king', *hass-* 'procreate, give birth; engender, bear', *hassa-* 'progeny', and TochB *ās-* 'produce', all from **$h_a$ens-* 'engender'. (Luvian *hamsa/i-* 'grandchild' is also often taken as related to Hit *hass-*; if so, it is evidence for an original **$h_2$ems-*.) The original meaning under this hypothesis would be preserved in Anatolian and Tocharian, while the semantic development of Hit *hassu-* would be similar to that seen in the relationship of NE *kin* and *king*. The development of 'spirit, god' in the rest of Proto-Indo-European would reflect the creative powers inherent in the gods—as when Ōðinn, embodying the creative power of the Æsir, blows the spirit of life into the prehuman logs, Askr and Embla. (Though Ōðinn's action could also be taken as mythological support of a relationship with **$h_a$en(h_1)-* 'breathe' as well.) In a variation of this hypothesis, GI take the semantic development of **$h_a$énsus* to be 'procreator' > 'ruler' > 'god' (the last step paralleling the history of Myc *wa-na-ka* 'king', Grk *(ϝ)άναξ*, but classical Grk 'divine king' or even the history of *lord* in NE). Finally C. Watkins has connected the Indo-Iranian and Germanic words with Hit *hassu-* but separated the latter from *hass-* 'give birth'. He takes **$h_2$énsus* then to be an agent noun from a putative **$h_2$ens-* 'hold, control' (the agent noun would, outside of Anatolian, have undergone a shift from 'ruler' > 'god'). In his view **$h_2$énsus* would be further connected with **$h_2$ensii̯eh_a-* 'reins'. (Under this hypothesis **$h_2$ens-* 'hold, control', though nowhere attested as such as a verb, might be an enlargement of **$h_2$em-* 'hold', with assimilation of **-m-s* to **-n-s*, seen in Lat *ampla* 'handle', OInd *ámatra-* '(drinking) vessel', and otherwise extended as **$h_2$em-h_x-* in OInd *ámīti* 'grasps, swears', Grk *ὄμνῡμι* 'swear'.)

See also God; Leader; Master, Mistress. [D.Q.A.]

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KING AND VIRGIN THEME

Indic, Roman, Scandinavian and Celtic mythology contain stories in which the well-being and succession of a king depends on the assistance of a virgin.

Celtic

Celtic mythology has several versions of this theme, but they are presented far less straightforwardly than in other traditions. In the fourth branch of the *Mabinogi*, Math the king of Gwynedd needed a virgin to hold his feet in her lap in time of peace. When his usual footholder was disqualified from her position after she was raped by his nephew, his niece Aranrhod offered herself for the position. When her claim to virginity was tested, however, she gave birth to two children, one of whom (Dylan, a sea god) plunged into the sea and swam away, while the other, still in an embryonic stage, was preserved in a chest by his uncle Gwydion until the proper time for birth. Despite many hindrances from his mother, the child grew up to become Lleu Llaw Gyffes, succeeding Math as the ruler of Gwynedd. Here the IE elements are distorted: the "virgin" aided the king against her will and only two sons were born in a triple birth process, but still the virgin supported the king against his bad heirs and the succession was preserved since the Celtic tradition passed sovereignty through the king's sister's son.

Irish tradition too is confusing, being both distorted and multiplied. In the *Cath Boinde*, Eochaid, the high king of Meath, is challenged by his four sons, a set of triplets named *Nar* 'Modesty', *Bres* 'Tumult', and *Lothar* '(Feeding) Trough', and a fourth son, Conall. The night before they were to fight him, the sons committed incest with their sister, resulting in a child named Lugaid Three Red Stripes. Apparently weakened by this sin, the triplets are killed by their father and the fourth son is banned from the succession. In other versions, the sister is shown to be deliberately inviting her brothers to commit incest in order to aid her father by weakening their virtue. Again we see the IE motifs: the sons of the king threatening his welfare, the good daughter coming to his aid by means of three acts of sexual intercourse, and the resultant birth of a grandson who can continue the king's bloodline on the throne. To make the tripartite nature of this grandchild clear, the three red stripes for which he is named are actually two lines dividing his body into three parts, each of which resembles one of his sires, and by extension represents the virtues of the three functions: a virtuous mind, ferocity in battle, and generosity.

Latin

In the Roman version, the virgin was Rhēa Silvia, who was made a Vestal Virgin by her usurping uncle so that her father, King Numitor, would have no direct descendants. However, she was impregnated by Mārs, producing the twins Rōmulus and Remus, who grew up to overthrow their great-uncle and restore their grandfather's throne. Rōmulus represented warrior courage as the son of Mārs, and was also the protege of Jūpiter; deified after his death, he became Quirīnus, patron of men in their peacetime role as producers of offspring and society. In this way, by embracing the three social aspects of IE society (priestly, warrior and herder-cultivator), Rōmulus fulfills the tripartite function by himself, with Remus adding the element of sacrifice in his own person.

The forms of Roman religion designed to support and aid the king, with their reliance on the service of virgins, continued even after Rome became a republic. The *Flāminica Diālis*, the wife of the high priest, took care of the cult of Jūpiter, while the Salian Virgins and the Vestal Virgins looked after the cults of Mārs and Ops respectively, ensuring military readiness and a store of food on behalf of the king, to whom they had reported annually.

Germanic

In Norse mythology we again find a virgin ensuring the well-being of the king by bearing sons, and a number of maidens assisting the three functions of the deities. In the *Prose Edda*, Gefjun, a virgin goddess, was sent by Ōðinn to ask for land when he first arrived in Scandinavia. When Gylfi, the king of Sweden, offered her as much as four oxen could plough in twenty-four hours, she went to the Giants to be impregnated, bore four sons, turned them into oxen, and ploughed the island now known as Zealand for Ōðinn's benefit. Ōðinn was also served by the Valkyries, warrior maidens, and less directly by Fulla, whose name means 'plenty', a handmaiden and friend to Ōðinn's wife Frigg. Here again we see the virgin aiding King Ōðinn, as a harvest supplier in Fulla, as a group of battle maidens, the Valkyries, and, through Gefjun as the physical means by which the sovereignty is established.

Indic

In the Indic story (*Mahābārata* 5), King Yayāti offers his virgin daughter Mādhavī to aid a brahmán who needs eight hundred moon-white horses with one black ear to give to his former teacher. The brahmán is to give this desirable woman, whose virginity is renewable and who is destined to be the mother of four kings, to a childless ruler in return for the horses. Since no king has enough horses, Mādhavī spends one night with each of three kings in return for two hundred horses apiece, and bears each king a son. To make up for the last two hundred horses, she spends the night with the teacher, bearing him a son as well. Finally Mādhavī retires to the forest in the form of a doe. The four sons represent the tripartite virtues: generosity (the virtue of the herder-cultivator estate or function), courage (the warrior function), truth and sacrifice (the two aspects of the first, judicial and priestly, function). They eventually save their grandfather Yayāti from

posthumous disgrace by sharing with him the virtues they represent so that he may re-enter heaven.

Patterns

From all of these indications we may posit an IE myth in which a king whose well-being is threatened by his unsatisfactory sons is saved through the offspring of a virgin daughter. The virginity is clearly not a physical attribute, but symbolizes a woman who has no loyalties to any man other than her father; to further emphasize this, the offspring is begotten not by a husband or potential mate but through incest, virtual prostitution, or divine intervention. The child she produces is also loyal only to his royal grandfather, and is able to utilize his tripartite virtues to benefit the king directly or indirectly.

See also **Horse Goddess**. [L.J.H.]

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KINGSHIP IN HEAVEN *see* ANCESTOR GOD

KINSHIP

Kinship terminology reflects the social structures that are imposed upon human society by birth, both natural and fictitious, and marriage alliances. The former relationship produces a series of consanguineous terms, e.g., 'father', 'mother', 'son', 'daughter', 'brother', 'sister'; the latter a series of affinal terms, e.g., 'husband', 'wife', 'husband's father'. Further distinctions can be made between terms of address, those used only when speaking *to* the kinsman, and terms of reference, those used when speaking *about* the kinsman to others. In some kinship systems these are quite sharply distinguished, and a term like English *dad* could never be used interchangeably with *my father*. Another important distinction that is sometimes made is that of age grades, in which different terms are used of kinsmen, chiefly brothers and sisters, in reference to whether they are younger or older than the speaker. Taking all of these into consideration, a great variety of systems for referring to kinsmen is possible.

Nevertheless, human kinship systems do occur in a limited number of basic varieties, which, like all human institutions and customs, are subject to change and development over the course of time. There are basically six possible kinship systems which comprise almost all examples in the ethnographic record, though it must be kept in mind that none of these systems is monolithic but rather each is a congeries of subsystems sharing certain system-defining tendencies (e.g., "Omaha tendencies", "Hawaiian tendencies"). One of the frequent goals of IE research has been the reconstruction of the PIE kinship system and its assignment to one of the six primary kinship types. The difficulties involved in such a task are numerous since kinship systems change through time and hence the referent to any particular term may remain stable or may change from one stock to another over time. Moreover, the very evolution of kinship systems may require the replacement or extension of terms beyond their "original" semantic range. Finally, there are few areas of IE reconstruction where arguments for negative evidence, i.e., the absence of specific terms for kinship positions, may be quite tempting since the distinctions between some of the various types requires the absence of certain kinship terms.

Before examining the basic kinship systems recognized in the ethnographic literature, the so-called "Patriarchal" system, formerly quite popular in handbooks of IE studies, requires some discussion. The term "Patriarchal" is made not with reference to any specific kinship system but is founded on the general observation that while terms for consanguineal and affinal relationships can be reconstructed from the husband's viewpoint, there are supposedly no corresponding terms from the point of view of the wife. It was, therefore, imagined that when a woman married within "PIE society", she moved not only into the household but also the kinship reckoning of her husband. She possessed terms for his family but he lacked the corresponding terms for the in-laws on his wife's side, e.g., 'wife's father', 'wife's mother', 'wife's sister', or, as seen from the viewpoint of the son, there were no words for 'mother's brother' or any of the other relations on his mother's side. This argument was founded not only on what appeared to be the distribution of cognate terms among the IE stocks but also the presumption that because there is solid evidence that PIE was virilocal, i.e., that the woman went to live in the house of the husband (or his family) rather than that of her (father's) family, and that inheritance appeared to be through the male line, then the kinship terminology should also reflect this exclusively male "bias" and one would not expect, therefore, that the husband/son would possess words for his wife's/mother's family.

There are two arguments against the case for reconstructing a "Patriarchal" kinship system to PIE. The first is based on ethnographic observation that the putative system reconstructed to the proto-language of the Indo-Europeans has never been encountered in the ethnographic record. While societies may invest almost all power in male family heads and where post-marital residence is invariably with the male and/or his family, terms for the wife's relations, seen from the viewpoint of the husband, are still universally encountered. The second argument is empirical and rests with terms such as **meh$_a$truh$_a$-* 'mother's sister', **su̯eli̯ion-* ~ **su̯elih$_x$on-* 'wife's sister's husband' and **ĝ(e)m(h$_x$)ros* 'sister's husband, son-in-law' which indicate some antiquity for words referring to the mother's or wife's kingroup.

The Proto-Indo-European Kinship System

Among the kinship systems commonly recognized by ethnologists, the first to be considered is the Eskimo system which is most familiar to English speakers since it is the one

Basic Kinship Systems and Nomenclature

Kin Type	Eskimo	Hawaiian	Sudanese	Iroquois	Crow	Omaha	PIE
FaFa	GrFa	GrFa	FaFa	FaFa	FaFa	FaFa	?*h$_2$euh$_2$os
FaMo	GrMo	GrMo	FaMo	FaMo	FaMo	FaMo	*h$_2$en-
MoFa	GrFa	GrFa	MoFa	MoFa	MoFa	MoFa	?*h$_2$euh$_2$os
MoMo	GrMo	GrMo	MoMo	MoMo	MoMo	MoMo	*h$_2$euh$_2$-ih$_a$
Fa	Fa	Fa	Fa	Fa	Fa	Fa	*pḫ$_a$tēr
FaBr	Uncle	Fa	FaBr	Fa	Fa	Fa	?*pḫ$_a$tru(u̯)ós
FaSi	Aunt	Mo	FaSi	FaSi	FaSi	FaSi	??
Mo	Mo	Mo	Mo	Mo	Mo	Mo	*méh$_a$tēr
MoSi	Aunt	Mo	MoSi	Mo	Mo	Mo	*meh$_a$truh$_a$-
MoBr	Uncle	Fa	MoBr	MoBr	MoBr	MoBr	?*h$_2$éuh$_2$-
Br	Br	Br	Br	Br	Br	Br	*bhréh$_a$ter-
FaBrSo	Cousin	Br	FaBrSo	Br	Br	Br	??*bhréh$_a$ter-
FaBrDa	Cousin	Si	FaBrDa	Si	Si	Si	?*su̯ésōr
FaSiSo	Cousin	Br	FaSiSo	FaSiSo	Fa	Ne	?
FaSiDa	Cousin	Si	FaSiDa	FaSiDa	FaSi	Ni	?
Si	Si	Si	Si	Si	Si	Si	*su̯ésōr
MoSiSo	Cousin	Br	MoSiSo	Br	Br	Br	??*bhréh$_a$ter-
MoSiDa	Cousin	Si	MoSiDa	Si	Si	Si	?
MoBrSo	Cousin	Br	MoBrSo	MoBrSo	So	MoBr	?
MoBrDa	Cousin	Si	MoBrDa	MoBrDa	Da	Mo	?

they employ themselves. Here the primary emphasis is on the members of ego's family and no distinction, other than sex and generation, is made between the names of the other relations, i.e., no distinction is made as to whose side one's aunt, uncle, or cousins are on. In terms of the naming of aunts and uncle this is termed a lineal system as ego classifies only members of the nuclear family as lineal relatives and all non-lineal relatives (aunts, uncles) are regarded as equally related to ego without respect to which side the relationship is derived. There is also a term for cousin. This is clearly not the system we reconstruct for most early IE groups since here lexical distinctions are often made between patrilineal and matrilineal kin. Also, there is some evidence for skewing generations, e.g., where 'brother' may be applied to ego's own brother and to the son of his father's brother. The absence of any reconstructible word for 'cousin' is also not in support of the Eskimo system.

The Hawaiian type fails to distinguish siblings from any cousins and uses one label for all, e.g., the word for 'brother' might be extended not only to one's biological brother but also to all the sons of one's aunts and uncles. In terms of aunts and uncles, this system is termed generational since the only distinctions made appears to be between generations and, other than sex, no distinctions are made within generations. This system cannot accord with the reconstructed evidence for PIE since here we find distinctions between paternal ('father', 'father's brother') and maternal ('mother' and 'mother's sister') relations and nowhere is there evidence that the term for 'brother' or 'sister' can be extended to all males or females of the same generation although 'brother' and 'sister' may have been extended to the children of 'father's brother'.

The Descriptive or Sudanese type is the exact converse of the Hawaiian and has specific labels to distinguish siblings from cousins and each type of cousin from each other. In terms of its naming of aunts and uncles, the Sudanese system is termed bifurcate-collateral. This is because the collateral relations are bifurcated (i.e., split, distinguished) from both the lineal relations and each other. One would expect then that the son and daughter of father's brother would be distinguished from the son and daughter of father's sister, etc. The terms used for these relations may be descriptive, i.e., terms such as OIr *brāthair māthar* 'mother's brother' rather than a single unanalyzable word.

One of the founders of the study of kinship systems, Lewis Henry Morgan, argued that the IE kinship system was Descriptive, i.e., PIE was believed to possess single word terms only for the most basic concepts, e.g., father, mother, brother, sister, son, daughter, husband and wife, and all other kinship terms were compounds of these basic "units". This theory was dismissed by Frank Wordick in his study of IE kinship who cited counter examples of such terms as *pḫ$_a$tru(u̯)i̯ós 'father's brother' (although this word is clearly of some antiquity in the center and east of the IE world, it is not certainly ascribed to PIE). More recently, Heinrich Hetterich has argued that the reconstructed PIE kinship system does come closest to the Descriptive type. His argument rests on a

rejection of the major alternative system, the Omaha type, where one might expect skewing of generations in kinship terms (e.g., *h_2euh_2os as both the 'grandfather' and 'mother's brother'). Hetterich observes that as we are unable to reconstruct the terms for cousins in PIE and that this is the area which would offer the most diagnostic evidence for assigning PIE kinship to a particular type, we are unable to assign it with certainty to any of the classic kinship types known from ethnography. The absence of special terms for the various cousins, he argues, is best explained by the assumption that PIE society did not possess such terms rather than that they had lost them without a trace. Instead, where we might expect to find names for various kinship positions outside the nuclear family, we generally find descriptive formations in the daughter languages, e.g., Lat *frātris filius* 'brother's son' (instead of 'nephew') or OIr *siur athar* 'father's sister' or suffixal derivations, e.g., *$bhreh_atru̯i̯os$ 'brother's son', *meh_atruh_a- 'mother's sister'. Such a system most closely accords with that of the Sudanese or Descriptive type. The problem with this conclusion is that it is not entirely demanded by the lack of evidence for cousin terms since these could also be filled by existing terms ('brother', 'sister', 'son', 'daughter', etc.) as indeed is the case in the Crow and Omaha types (and to a lesser extent in the Iroquois).

The Iroquois (or Dravidian, although distinctions are made between these two) system has a cousin term for cross cousins (father's sister's children and mother's brother's children) only, but does not distinguish parallel cousins (father's brother's children and mother's sister's children) from siblings. In terms of the aunts and uncles, this system is described as bifurcate-merging in that some of the terms for uncles and aunts are merged with those of the parents, e.g., the same word may be employed for both father and for father's brother (and, by extension, for one's own siblings and those of one's paternal uncle). The Iroquois type is widespread and is the principal type of bifurcate merging system in the ethnographic record. The evidence from the reconstructed PIE vocabulary finds the term for the 'father's brother' formed descriptively from that of the 'father', e.g., *$p̥h_atr̥u(u̯)i̯os$, but by no means identical with it (nor can we presume that this term extended back to PIE although it obviously enjoyed antiquity in the center and east of the IE world). While it cannot be certainly determined, *$bhréh_ater$- was arguably extended to cousins such as the son of father's brother.

The Crow and Omaha types, both bifurcate-merging systems, also equate parallel cousins with siblings but have no special terms for cross cousins. In the Crow type, the father's sister's children are regarded as the corresponding patrilateral aunts and uncles (father's sister and brother), while the mother's brother's children are regarded as brother's son and brother's daughter. Omaha, the mirror image of this system, equates father's sister's children with sister's children and mother's brother's children with mother and her brother.

The Crow system is easily excluded as accommodating the evidence for PIE kinship in that it is a matrilineal system and almost all historical evidence of the early Indo-Europeans would suggest a patrilineal descent system. In any event, characteristic features of the Crow system such as applying the same word for ego's father also to father's brother and to father's sister's son ('cousin') and even father's sister's daughter's son ('nephew') because they are all males of mother's husband's descent group finds no correspondence with the lexical evidence of the reconstructed PIE kinship system.

Currently, one of the most widely accepted hypotheses is that the PIE kinship system was of the Omaha type, the patrilineal version of the Crow system. Although none of the recorded societies employ a complete Omaha system, supporters argue that only the Omaha system explains a number of terminological anomalies found in the surviving kinship terms. These include a number of terms that merge generations under common terms, e.g., the same term (*h_2euh_2os) is employed both for 'grandfather' and 'mother's brother' which is then reciprocated by the use of the same term (*népōts) for both ego's 'grandson' and ego's 'sister's son'. Another merging is argued to occur between the term for (*su̯ésōr) 'sister' and a 'woman's brother's daughter'. We also find the lack of a reconstructible unitary term for 'cousin'. The typical society that employs Omaha kinship terms is patrilineal and exogamous. These conclusions are supported by the analysis of terms for 'marry', which indicate that Indo-European marriage was exogamous and virilocal.

The ascription of the PIE kinship terms to the Omaha system is, however, also difficult to demonstrate since every line of diagnostic evidence is liable to challenge or there is no reconstructible term for a diagnostic category. While *h_2euh_2os unquestionably did designate the 'grandfather' in PIE, it is much more difficult to prove that it also was applied to 'mother's brother' although a derivative of *h_2euh_2os was widely employed in forming this term in different IE stocks. In the case of *népōts, the word unquestionably designates the 'grandson' but its assignment to the 'sister's son' is seen to be late in some IE stocks (e.g., Latin) and critics of assigning PIE to the Omaha system argue that it did not take in this extended meaning until after the collapse of PIE "unity". Finally, the extension of *su̯ésōr beyond 'sister' to 'brother's daughter' is rarely found in the IE stocks and cannot be solidly ascribed to PIE.

On the basis of this review, we can exclude certain kinship types from consideration (Eskimo, Hawaiian, Crow) on the grounds that the categories predicted by such kinship systems are clearly filled differently in the reconstructed PIE system. The other three types (Descriptive, Iroquois, and Omaha) do not fail so much on the basis of positive evidence providing an incongruity between the reconstructed PIE system and the ideal ethnographic types but rather because the linguistic evidence is either lacking, indeterminate or weak for those categories that are most diagnostic.

Kinship categories are at best ideal constructs which, in the ethnographic record, are seldom filled out precisely according to the canonical model. Moreover, there is a

considerable amount of evidence that speakers of the same language may not even share the same kinship terms or terminological system. The temporal distance between PIE and the attestation of many of the IE languages has clearly obscured the precise nature of the PIE kinship system. There do seem to be elements of generational skewing that are easiest explained by assuming that either some IE languages had either once possessed them or were making the transition towards an Omaha kinship system. But it is another thing altogether to attribute the Omaha or any other kinship system to PIE.

See also AGE SET; AUNT; BROTHER; BROTHER-IN-LAW; CHILD; COUSIN; DAUGHTER; DAUGHTER-IN-LAW; DEGREES OF DESCENT; DESCENDANT; FAMILY; FATHER; FATHER-IN-LAW; FREEMAN; FRIEND; GRANDDAUGHTER; GRANDFATHER; GRANDMOTHER; GRANDSON; HOUSE; KINSMAN; LINEAGE; MAN; MARRIAGE; MASTER; MOTHER; MOTHER-IN-LAW; NEPHEW; NIECE; SISTER; SISTER-IN-LAW; SON; SON-IN-LAW; UNCLE; WIDOW; WIFE. [M.E.H., J.P.M.]

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KINSMAN

***ph̥$_a$trōus** (gen. ***ph̥$_a$truu̯ós**) 'paternal kinsman, (particularly) paternal uncle'. [*IEW* 829 (**pətruu̯i̯o-s*); GI 669 (**p^{h}H̥t^{h}ruwio-*); Buck 2.51; Szem 11; Wordick 124–125]. Lat *patruus* (if < **ph̥$_a$tru-o-s* rather than **ph̥$_a$tru-i̯o-s*) 'father's brother', Grk *πάτρως* 'paternal kinsman; father's father; father's brother'. Cf. the further derived **p(h$_a$)tru(u̯)-i̯o-s* 'paternal, pertaining to the paternal line': Lat *patruus* (if < **ph̥tru-i̯o-s* rather than **ph̥$_a$tru-o-s*) 'father's brother', Lith *strūjus* 'grandfather, old man', *strùjus* 'father's brother; mother's sister's husband', OCS *stryjĭ* 'father's brother', ORus *stryjĭ* ~ *strŭjĭ* 'father's brother', Rus *stroj* 'father's brother', Grk *πατρυιός* 'step-father', Arm *yawray* 'step-father', Av *tūirya-* 'father's brother', OInd *pitr̥vyá-* 'father's brother'. The semantic specification of Greek and Armenian, on the one hand, and Balto-Slavic and Indo-Iranian, on the other hand, are possibly independent but both may reflect late PIE dialectal developments. Alternatively, the possibility that the same word might mean 'father's brother' and 'step-father' might argue for the existence in PIE society of the levirate where a brother (i.e., 'father's brother') would marry the wife of his deceased brother to become ego's step-father. Among IE groups, some remnants of this custom are recorded in the Law of Gortyn for Greeks and survived among the Albanians until after World War II. The phonologically difficult initial cluster **ptr-* was simplified by the loss of **p-* in Iranian and by the change of the latter to **s-* in Balto-Slavic. The forms in the other languages reflect **ph̥$_a$tr-*. The Germanic forms such as OE *fædera* 'father's brother', Fris *federia* 'father's brother', and OHG *fatureo* 'father's brother' are derivatives of the semantically similar **ph̥$_a$tr̥-i̯o-s* 'paternal'.

***méh$_a$trōus** (gen. ***meh$_a$truu̯ós**) 'maternal kinsman, (particularly) maternal uncle'. [cf. *IEW* 701 (**mātruu̯iā*); Wat 39 (**māter-*); Buck 2.52]. Grk *μήτρως* 'maternal kinsman; maternal uncle'. While attested as such only in Greek, the further derivative **meh$_a$tru(u̯)-i̯o-s* 'maternal; pertaining to the maternal line' is found more widely: OE *mōdrige* 'mother's sister', Fris *modire* 'mother's sister' (Gmc < **meh$_a$trui̯eh$_a$n-*), Grk *μητρυιᾱ́* 'step-mother', Arm *mawru* 'step-mother; mother-in-law'. As in the case of the previous entry, the differing semantic developments seen in Germanic, on the one hand, and Greek and Armenian, on the other, may be of late, dialectal IE age. Or, again as with the preceding word, the combination of 'mother's sister' and 'step-mother' might be seen as giving evidence for the sororate, whereby a man may marry two or more sisters successively, often after the death of the first wife. Thus a second wife, a 'step-mother', might be ego's own mother's sister.

Both this word and the previous one show an extremely rare extension of a noun in **-ter-* by a *u*-stem and a particularly archaic *u*-stem formation with a nominative singular in **-ōus*. This formation is found only (rarely) in Greek, Avestan, and Hittite. That a noun with this particular morphological shape should be formed after PIE unity had broken up is most unlikely.

See also AUNT; UNCLE. [M.E.H., D.Q.A.]

KISS

***kus-** 'kiss'. [*IEW* 626 (**ku-* ~ **kus-*); Wat 33 (**kus-*); Buck 16.29]. ON *kyssa* 'kiss', OE *cyssan* 'kiss' (> NE *kiss*), OHG *kussen* 'kiss', Grk *κυνέω* 'kiss', Hit *kuwaszi* 'kisses'. The initial **k-* in Germanic is problematic; possibly it was retained for sound-symbolic reasons. The phonological problem indicates the need for caution in reconstructing this to PIE.

See also LOVE. [M.N.]

KITE

***ĝhi̯-** ~ ***k̂i̯ei-** 'bird of prey, kite?'. [*IEW* 541 (**k̂i̯ē-*); GI 457 (**k̂^{h}yē-*)]. Grk *ἰκτῖνος* 'kite', Arm *c'in* 'kite'. The Greek-

Armenian isogloss is the only secure cognate between two stocks although Av *saēna-* 'eagle' and OInd *śyenā-* 'eagle, falcon' are also sometimes included. Armenian also employs *urur* from an early period, and this word might be related to the Arm *oror* 'gull' (< *$*h_3$ōr-nis*). Neither the Lat *milvus* nor the OInd *śakúni-* are demonstrably IE.

See also BIRDS; EAGLE; FALCON. [J.A.C.G.]

KNEE

ĝónu (gen. ***ĝénus***) 'knee'. [*IEW* 380–381 (**ĝenu-*); Wat 19 (**genu-*); GI 688 (**k̂'enu-*); Buck 4.36]. OIr *glūn* (< **ĝluh$_x$ni-* < **ĝnu-h$_x$-ni-*) 'knee', Lat *genū* 'knee', ON *knē* 'knee, limb', OE *cnēo(w)* 'knee' (> NE *knee*), OHG *knio* ~ *chniu* 'knee', Goth *kniu* 'knee' (Gmc < **ĝnéu̯o-*), Alb *gju* (< **gluno-* < **ĝnu-no-*) 'knee', Grk *γόνυ* 'knee' (cf. also *γωνία* [< pre-Greek **gōnwia*] 'corner, angle'), Arm *cunr* 'knee', Hit *gēnu* 'knee', Av *žnu-* 'knee', OInd *jā́nu* 'knee', TochA *kanweṃ* (dual) 'knees', TochB *kenī(ne)* (dual) 'knees'. Pan-IE in distribution, wanting only in Balto-Slavic. Most probably related to **ĝénu-* 'chin, jaw', both being sharply angled parts of the body. Clearly of PIE status. Words for the 'knee' were often used euphemistically for the genitals.

See also ANATOMY. [D.Q.A.]

KNIFE

u̯ēben- 'cutting weapon, knife'. [Wat 76 (**wēpnam*); VW 596–597]. ON *vāpn* 'weapon', OE *wǣpn* 'weapon' (> NE *weapon*), Goth (pl.) *wēpna* 'weapons' (Gmc < **u̯ēb-no-*), TochAB *yepe* (A is borrowed from B) (< **u̯ēb-en-*) '[cutting] weapon, knife'. Though found in only two stocks, this word has no known root connections and must be at least late PIE in date. The underlying semantics here are vague in the extreme. The ON *vāpn* was a generic term and in one text specifies ax, sword, spear, and types of halberd. The Old English word means 'weapon, sword' but can also be extended to mean 'penis' which certainly suggests a thrusting weapon. The Gothic word translates Grk *ὅπλα* 'arms'. Only in Tocharian do we have a more specific meaning 'knife'.

?*k̂os-trom ~ *k̂os-dhrom 'cutting instrument, knife'. [*IEW* 586 (**k̂$_e$s-tro-m*); Wat 30 (**kes-*); Buck 9.23; BK 243 (**k[^{h}]as-/*k[^{h}]əs-*)]. Lat *castrō* 'prune, cut, castrate' (a denominative verb from **castrum* 'cutting instrument' with not well-explained **-a-*), Alb *thadër* (< **k̂os-dhrom*) 'a type of adze', OInd *śástra-* 'knife, dagger'. From **k̂es-* 'cut' + the instrumental suffix **-trom* or **-dhrom*. It is possible that these are independent creations in the stocks which show them.

?*kert- 'knife'. [*IEW* 941 (**(s)ker-*); cf. Wat 59–60 (**sker-*); Buck 9.23; BK 246 (**k[^{h}]ar-/*k[^{h}]ər-*)]. Av *karəti-* 'knife', OInd *kṛtí-* 'knife', TochB *kertte* 'sword'. From **(s)ker-* 'cut'. Since there remains the very real possibility that the Tocharian B word is borrowed from Iranian, the IE status of this word is quite doubtful.

?*kl̥tér 'knife' (i.e., "cutter"). [*IEW* 923–926 (**(s)kel-*); Wat 59 (**skel-*); Buck 9.23]. Lat *culter* '(butcher's) knife', OInd *kuṭhāra-* 'ax'. From **(s)kel-* 'cut'. If the Indic word belongs with the Latin it is because it shows a Middle Indic phonological development of expected *-r-*. Such a development is by no means impossible but it has also been suggested that the Indic word is a borrowing from some Dravidian source. In short, a possible but by no means certain PIE word.

By the earliest historical attestations of the various IE stocks knives were made of bronze or iron; however, across Eurasia there were stone equivalents at least since the Neolithic. At that time long blades fashioned of flint or some other suitable stone were fixed within a wooden haft. Despite the weak lexical evidence, it is impossible to imagine that the earliest IE speakers did not possess 'knives' of some sort, either stone or copper.

See also CUT; RAZOR; SWORD; TOOL. [D.Q.A.]

KNOT[1]

ned- 'knot'. [*IEW* 758–759 (**ned-*); Wat 44 (**ned-*); cf. GI 224 (**not'-*); Buck 9.192; BK 559 (**nat'^{y}-/*nət'^{y}-*)]. OIr *naiscid* 'binds', *naidm(m)* 'bond', Lat *nectō* 'knot, bind' (the shape of the Latin verb has apparently been influenced by *pectere* 'comb [wool]'), *nōdus* 'knot', *nassa* (< **n$_e$d-teh$_a$-?*) 'weel, wickertrap for fish', ON *nōt* 'net', OE *nett* 'net' (> NE *net*), OHG *nez(z)i* 'net', Goth *nati* 'net' (perhaps also ON *nest* 'needle, clasp', OE *nostle* 'fillet, band', OHG *nestila* 'brooch', *nust* 'connection'), Av *naska-* (< **nad-ska-*) 'bundle', OInd *náhyati* 'bind' (the apparent *-dh-* of the Old Indic word may be due to crossing with the synonymous *badh-*). A widespread and presumably old word in IE.

Also probably part of this etymon are certain words for 'nettle': MIr *nenaid* 'nettle', OE *netel* 'nettle' (> NE *nettle*), OHG *nezzila* (< **nod-il-eh$_a$-*) 'nettle', *nazza* 'nettle', Grk *ἀδίκη* (< **n̥d-ik-eh$_a$-*) 'nettle'. Bast fibres, particularly those of tree bark, were used from Mesolithic times on for the construction of nets. It would seem that even in late PIE times, the name for bast fibre was transferred to the nettle which has also been used for weaving of fine soft cloth, though not apparently for creating nets.

See also TEXTILE. [D.Q.A., E.J.W.B.]

KNOT[2]

h$_x$ósgos 'knot (in wood), joint of branch with tree'. OIr *odb* 'knot (in wood)', Wels *oddf* 'knot (in wood)', Grk *ὄσχος* 'sucker, shoot; vine-branch' (*-skh-* rather than expected *-zg-* by crossing with *μόσχος* with the same meaning), MPers *'zg* 'branch', NPers *azγ* 'branch', OInd *ádga-* 'knot, joint; stalk, (stem of) bamboo)'. Widespread and old in IE.

See also PLANTS; TREES. [D.Q.A.]

KNOW

ĝneh$_3$- 'know, be(come) acquainted with'. [*IEW* 376 (**ĝen-*); Wat 23–24 (**gnō-*); GI 32 (**k̂'en-*); Buck 17.17; BK 295 (**k'an^y-/*k'ən^y-*)]. The most widespread present is **ĝn̥h$_3$-neh$_a$-*: OIr *ad-gnin* 'recognizes', ON *kunna* (pres. *kann*) 'know, be able to', OE *cunnan* (pres. *cann*) 'know, be able to' (> NE *can*), OHG *kunnan* (pres. *kan*) 'know, be able to', Goth

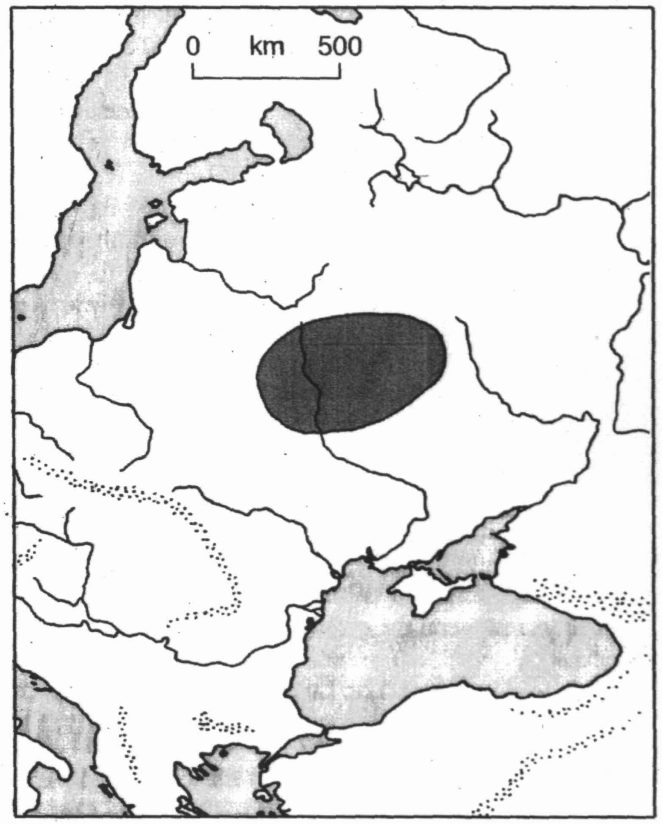
kunnan (pres. *kann*) 'know', OPrus *posinna* 'recognize', Lith *žinóti* 'know', Latv *zināt* 'know', Arm *caneay* 'knew', *an-can* 'unknown', Av *zānāiti* 'knows', OInd *jānā́ti* 'knows, recognizes', TochA *knānā-* 'know', TochB *nānā-* 'appear' (< *'come to be known'); almost as widespread are presents in **-sk̂e/o-* though they may all be independent creations: Lat *(g)nōsco* 'know', Lith *pa-žį́stu* 'recognize', Alb *njoh* 'know', Grk *γιγνώσκω* 'know', OPers *xšnāsātiy* 'should know'; different yet is Hit *ganēszi* (< **ĝnēh$_3$-s-ti*) 'recognizes'; the original aorist was **(h$_1$é)ĝneh$_3$t* 'knew; came to know'. Practically universal in IE and surely old. Cf. the following widespread derivatives: (1) **ĝneh$_3$tis* 'knowledge' in Lat *nōtiō* 'a becoming acquainted, investigation; conception', Rus *znatĭ* '(circle of) acquaintances', Grk *γνῶσις* 'knowledge', OInd *pra-jñāti-* 'knowledge'; (2) **ĝneh$_3$tḗr* 'one who knows' in Lat *nōtor* 'knower', Grk *γνωστήρ* 'knower', Av *žnātar-* 'knower', OInd *jñātár-* 'knower'; (3) **ĝneh$_3$tós* 'known' in OIr *gnāth* 'used to, known', Lat *nōtus* 'known', Grk *γνωτός* 'known', OInd *jñātá-* 'known'.

***u̯eid-** 'see, know (as a fact)' (perf. ***u̯óide**). [*IEW* 1125–1126 (**u̯(e)di-*[*sic*]); Wat 74 (**weid-*); GI 734 (**w(o)it'-*); Buck 17.17]. OIr *ro-fetar* 'knows', Wels *gwydd-* 'know', Lat *videō* 'see', ON *vita* (pres. *veit*) 'know', OE *witan* (pres. *wāt*) 'know' (> NE *wit*), OHG *wizzan* (pres. *weiz*) 'know', Goth *witan* (pres. *wait*) 'know', OPrus *waidimai* 'know', Lith *véizdmi* 'see', OCS *věděti* (pres. *vědě*) 'know', Grk *οἶδα* 'know', Arm *gitem* (< **u̯oid-*) 'know', Av *vaēδa* 'know(s), see(s)', OInd *véda* 'know(s)'. This is the classic example of the PIE perfect, whose basic meaning was to denote the result of an action, which became reinterpreted as a present. In this case 'have seen' could be taken as 'know'. Though absent in Hittite (and as a verb in Tocharian), this verb is extremely widespread and clearly old in IE. Cf. the widespread derivatives (1): **u̯idmén-* 'knowledge': Grk *ἴδμων* (< **u̯éidmon-* 'having knowledge') 'skilled', OInd *vidmán-* 'wisdom', TochB *ime* 'consciousness, awareness; thought'; (2) **u̯eides-* 'what is seen, appearance': MIr *fíad* 'face to face', Wels *yngwydd* 'face to face', ON *víss* 'certain, -wise', OE *wīs* '-wise' (> NE *wise*), OHG *wīs* '-wise', Lith *véidas* 'face', OCS *vidŭ* 'appearance', Grk *εἶδος* 'appearance', OInd *védas-* 'knowledge'.

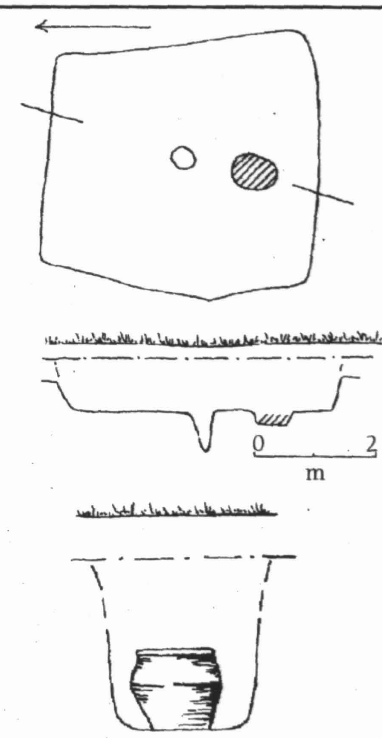
See also SEE. [D.Q.A.]

KOLOCHIN CULTURE

The Kolochin culture is the eastern regional element of the Prague-Penkov-Kolochin complex of cultures that date from the fifth to seventh centuries AD. The Kolochin culture, attested by about a hundred sites, was situated primarily along the Dnieper drainage. Settlements were undefended clusters of small single-roomed houses; burial was by cremation. The culture has been variously identified as an element of the Baltic culture on the evidence of Baltic river names in this region or Slavic peoples shortly before their emergence in historical records. If the culture were indeed Baltic, and the area of its distribution does not seem to lead to typically Slavic finds, then it along with its southern relations who are



Kolochin a. Distribution of the Kolochin culture.



Kolochin b. House plan; c. Urn burial.

generally regarded as Slavic, might have provided an appropriate environment for Baltic-Slavic linguistic exchanges.
See also BALTIC LANGUAGES; PENKOV CULTURE; PRAGUE CULTURE; SLAVIC LANGUAGES. [J.P.M.]

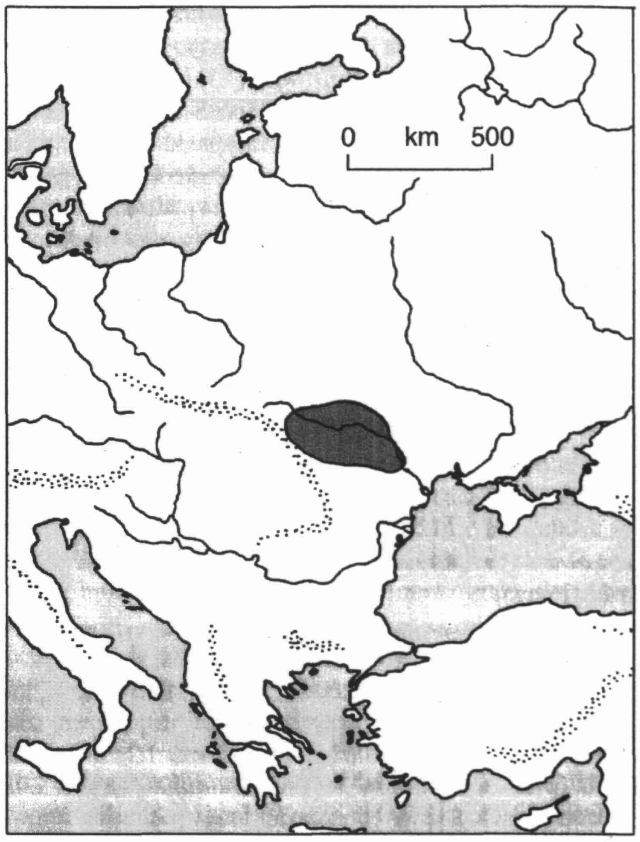
KOMAROV CULTURE

Bronze Age culture dated to *c* 1500–1200 BC which occupied the region along the middle Dniester. Although a few settlements are known, e.g., Komarov with its twenty small single-roomed houses, the culture is primarily known from its inhumation burials, set into a timber- or stone-covered grave and covered with a tumulus. Flat grave burials and cremations are also known. The existence of a sun cult has been postulated on the basis of decoration found on ceramics and the presence of cromlechs, stone rings, around the base of tumuli. Its origins are sought in a local development of the Corded Ware horizon with which it shares similarities in ceramics, metallurgical traditions and burial rite. Closely related to the Trzciniec culture, the Komarov is generally assigned to a phase in the evolution of the Proto-Slavs or the Thracians.

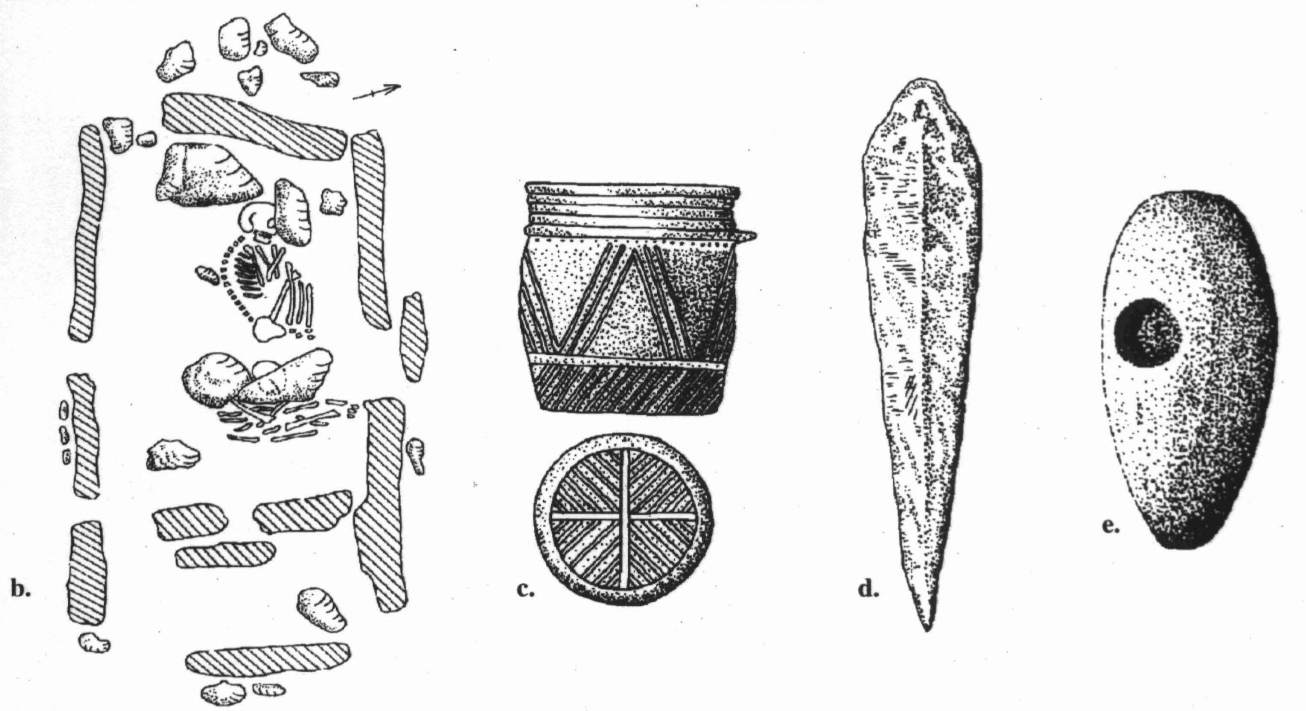
See also SLAVIC LANGUAGES; THRACIAN LANGUAGE; TRZCINIEC CULTURE. [J.P.M.]

KURGAN TRADITION

The Kurgan Tradition is a blanket term for a series of Copper and Bronze Age cultures of the Black Sea-Volga region. As a cultural designation, the term is primarily associated



Komarov a. Distribution of the Komarov culture.



Komarov b. Burial; c. Pot with "solar" decoration on base; d. Bronze dagger; e. Stone "battle-ax".

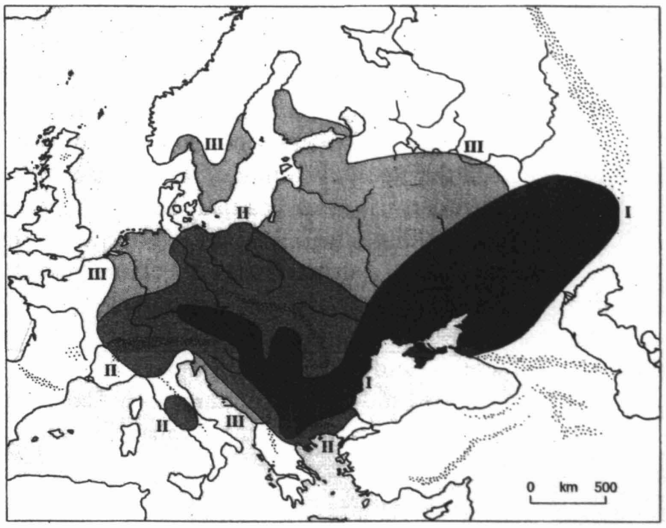
with the works of the late Marija Gimbutas and supporters of her Kurgan solution to the IE homeland problem and, therefore, the term "Kurgan Tradition" is often used synonymously with the earliest Indo-Europeans. In the system employed locally by Russian and Ukrainian archaelogists, the Kurgan tradition or culture embraces the Khvalynsk culture of the Middle Volga, the Sredny Stog culture of the Middle Dnieper, the Kemi Oba, Lower Mikhaylovka and Usatovo cultures and contemporaneous cultures of the western steppe and forest-steppe region, the Novosvobodna and Maykop cultures of the north Caucasus and the entire Yamna cultural-historical complex of the Pontic-Caspian and its regional variants.

According to Gimbutas, the Kurgan Tradition is characterized by seasonal settlements, semi-subterranean dwellings, pastoral economy, hierarchic social structure, strongly patriarchal familial system, aggressive warfare, burial of the dead in a hut-like chamber beneath a tumulus (Russian *kurgan*), animal sacrifice, utilization and veneration of the horse, use of wheeled vehicles, and worship of solar deities. The culture is held in contrast to that of her "Old Europe", the consensus of Neolithic and Copper Age cultures of Europe, especially evident in southeastern Europe, before the penetration of the Kurgan tribes. These cultures are typified as peaceful and sedentary agriculturalists living in large villages or townships in egalitarian and matrilineal societies with special emphasis on female deities.

The Kurgan Expansions

Gimbutas argued that the Kurgan culture expanded from its homeland in the steppe and forest-steppe of the Ukraine and south Russia carrying with it the IE languages. This dispersal took place over an extended period from 4500 to 2500 BC. The expansion of the Kurgan culture or, at least, Kurgan traits, is seen eastwards in the form of related steppe cultures such as the Afanasevo and Andronovo cultures of the Asian steppe and forest-steppe; southwards through the Caucasus; and westwards in a series of three waves into southeastern and central Europe.

The first wave (4500–4300 BC), according to Gimbutas, begins with the development of horse domestication in the Volga-Ural region and the subsequent expansion of pastoralists westwards from the Kurgan "heartland". They achieved domination of the steppe and forest-steppe regions of the Ukraine, e.g., the Dnieper-Donets culture, where they emerge as the Sredny Stog culture. They pushed further west where their presence is indicated by Kurgan graves such as that from Suvorovo in Moldova and Casimcea in Romania where high-status males were buried with horse-head scepters. As the Kurgan people entered the Balkans they precipitated a crisis which saw the collapse of the local agricultural communities who had occupied stable villages for over a millennium. These tell sites were abandoned and new cultures such as Cernavoda I appeared which reflected a hybrid of local agricultural traditions mixed with those of the steppe.



Kurgan The three "waves" envisaged in the "Kurgan solution" to Indo-European expansions. The first wave (I) dates to *c* 4400–4300 BC; wave II is dated to *c* 3500–3000 BC; wave III to *c* 3000 BC.

The second wave of intrusions is set to the period *c* 3500 BC. It sees the appearance of hybridized Kurgan cultures from the northwest Pontic across the Balkans. The Tripolye culture, whose origins lay in the indigenous Balkan Neolithic, was transformed by this time into Kurganized cultures such as Usatovo which mixed the ceramic, metallurgical and mortuary traditions of the Tripolye culture with those of the steppe. This is also the period of the emergence of a "Balkan-Danubian" complex where similarities in ceramics (high-handled drinking cups, etc.) and the use of (Caucasian derived) bronzes appears across the northwest Pontic and Balkans in the Baden, Coţofeni, Ezero and Troy cultures. Most of these cultures also reflect the emergence of stone-built citadels.

It is also at this time that there are major cultural changes in central and northern Europe with the expansion of the Globular Amphora culture over the earlier territory of the TRB culture. Gimbutas argues that this latter culture, which marks a shift to increasing pastoralism and less permanent settlement, derives ultimately from influences from the Maykop and Lower Mikhaylovka cultures of the north Caucasus and Ukraine (hence her use of the term "Maykop culture" for all of these different cultures). The connections between the Globular Amphora and Maykop cultures, she argues, is especially to be seen in ceramic forms and the use of stone in the construction of mortuary chambers.

The third wave (*c* 3100–2900 BC) is associated with the spread of the Yamna culture from the steppe and forest-steppe of the Pontic-Caspian to the Danube basin and east Balkans. This is the best attested of the three "waves" and is marked by thousands of kurgans across the Balkans which have close if not exact parallels with burials of the steppelands. Tumulus burials spread southwards into Albania and northern Greece

and Gimbutas credits the cultural changes between Early Helladic II and III (*c* 2300–2200 BC) in Greece with the arrival of Kurgan populations bearing IE languages to Greece.

The expansion of the Kurgan culture to western Europe is also seen in the spread of the Beaker culture whose origins, she argues, lay in the Vučedol culture of the Danube basin (most would rather derive it, at least partially, from the Corded Ware culture of the Rhineland). Similarities are cited with reference to metal objects, burial rites, the use of solar motifs, the presence of the domestic horse, that link the Beakers with the Danube from whence they spread over the western half of Europe. Central and northern Europe were "Indo-Europeanized" by the Corded Ware culture which Gimbutas derives from the Globular Amphora and Yamna cultures.

The Caucasus

Gimbutas also argued that Kurgan tribes penetrated the metallurgical centers of the Caucasus. This spread is witnessed by the close association between the steppe cultures and those of the north Caucasus such as the Maykop culture which exerted an influence in metallurgy, ceramics and in mortuary ritual over a broad area of the steppe, e.g., the Kemi Oba culture, the Lower Mikhaylovka culture. More direct connections between the two regions, Gimbutas argued, were to be seen in the spread of Kurgan tribes through the Caucasus into the territory of the Kuro-Araxes culture (here marked by the presence of tumulus burials). Some suggest that the Kuro-Araxes region provided a convenient staging area for Kurgan expansions into eastern Anatolia which might be employed to explain the arrival of the Anatolian linguistic stock.

Asia

Kurgan expansions east of the Volga are also part of the general explanation of Indo-European dispersals. Generally, these expansions are attributed to the period of the Yamna culture (*c* 3500 BC onwards) although in the recognition that horse domestication may have also occurred in the southern Urals and western Kazakhstan, the origins of the Kurgan tradition as a whole may be set to an area that included the far west of the Asiatic steppe. If the Afanasevo culture of the Yenisei and Altai mountains is also an offshoot of the European steppe cultures, this too would speak for a very early (fourth millennium BC) expansion of the Kurgan tradition eastwards. The subsequent development of the Andronovo culture with its strong links with European developments (Potapovka, Srubna culture) also speaks for a general cultural trajectory from the European steppe eastwards that formed the staging area for subsequent Indo-Iranian migrations.

Evaluation

There are core elements in the theory of Kurgan expansions that are founded on generally recognized canons of archaeological evidence and are widely accepted. The third wave of Yamna expansions into the Balkans, for example, is abundantly supported by thousands of burials in Romania, Bulgaria and Hungary, and it would be difficult to deny that there was an influx of steppe pastoralists into the Balkans at the end of the third millennium BC. Similarly, connections between developments in Kazakhstan and those of the European steppe also speak for some form of cultural trajectory emanating out of the Volga-Ural region. Where there appears to be a spread of steppe elements or populations into adjacent steppelands or neighboring regions, the evidence seems fairly solid.

On the other hand, depictions of major cultural changes beyond these regions or the attribution of new cultures to steppe intruders becomes increasingly difficult to sustain the further one is removed from the open grassland environment in which the steppe cultures formed. Gimbutas' arguments for more distant Kurgan expansions often rests on evidence that moves from the specific comparison between (almost) identical cultural elements to increasingly generalized and, possibly generic comparisons. Hence the spread of Kurgan populations west and north of Hungary, for example, is marked not by specific similarities of mortuary ritual but by fairly vague comparisons, e.g., tumulus burial, stone battle-axes, warfare, defensive or merely enclosed settlements, "solar" motifs on ceramics. In almost all cases, examples of these Kurgan "traits" can also be found in European cultures that precede any putative Kurgan expansions. For example, the Baalberge tumuli cover early TRB burials which are regarded as a pre-Kurgan culture of northern and central Europe; similarly, stone battle-axes are well known in the non-Kurganized TRB culture. Solar motifs can be clearly discerned on early Neolithic ceramics in Italy. The evidence of warfare can be found in the earlier Linear Ware culture (again non-Kurgan) as well as among Mesolithic populations of both the Baltic and Dnieper-Donets regions and the presumption that inter-societal violence was initiated in Europe by a specific linguistic group (the Indo-Europeans) to the exclusion of all others seems extremely unpersuasive. Such broad assertions reflect one of the core problems of the Kurgan theory: the presumption that major social and economic changes must be attributed exclusively to a new ethnic component rather than natural (e.g., climatic change) or internal processes (environmental degradation, social evolution). The collapse of Balkan settlement patterns at the end of the Neolithic, for example, is laid entirely to intruders who "traumatized" local populations.

In the face of some of Gimbutas's general arguments, critics have assembled specific arguments to indicate the local origins or the non-correlation between the steppe cultures and those elsewhere in Europe. The Corded Ware culture, for example, reflects a strict sexual polarity where males are deposited on the right side and females on the left, a ritual observance not encountered among the steppe pastorlists but found among local Neolithic and Copper Age cultures of east Central Europe. Battle-axes, often regarded as a marker of the Kurgan culture, are conspicuous by their absence from graves of the steppelands.

As a single explanatory model, the concept of an expanding Kurgan tradition as currently presented is still not robust enough to provide a convincing solution to the problem of Indo-European origins. One cannot, of course, hope to follow any single "Kurgan" marker such as the horse, tumulus burial, or solar representations, as a direct proxy for Indo-European dispersals. Nor can a combination of these features (e.g., hillforts, warfare), when unsupported by a clear chain of cultural connections in a chronologically validated pattern, be employed to chart the process of linguistic movements. Through its use of the concept of "Kurganized" cultures, the model of Kurgan-IE expansions does suggest the type of future direction its supporters might take if they wish to demonstrate that a linguistic process, emanating from the steppelands of the Ukraine and south Russia, eventually embraced much of Europe and Asia.

See also CERNAVODA CULTURE; EZERO CULTURE; INDO-EUROPEAN HOMELAND; KHVALYNSK CULTURE; MAYKOP CULTURE; SREDNY STOG CULTURE; TROY; USATOVO CULTURE; YAMNA CULTURE. [J.P.M.]

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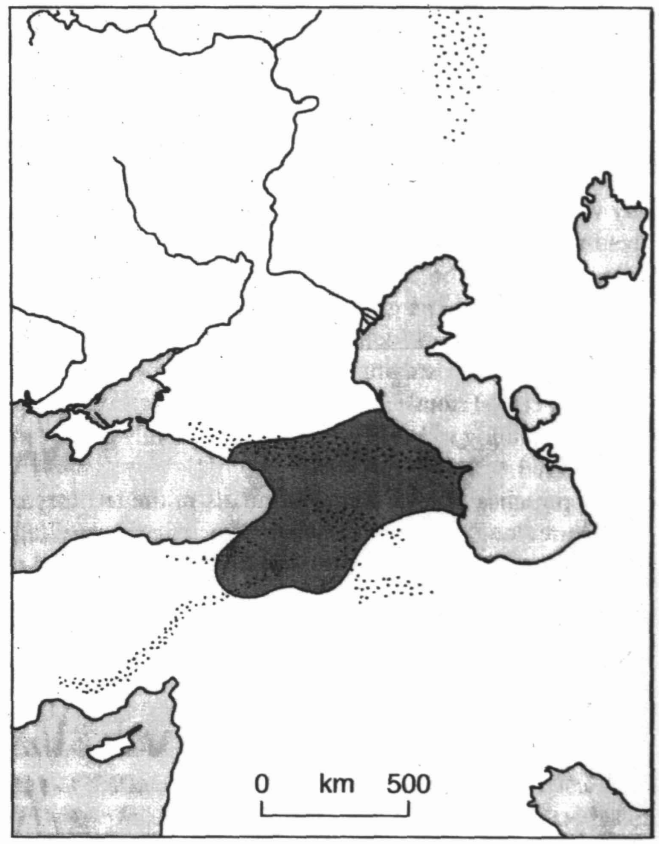
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KURO-ARAXES CULTURE

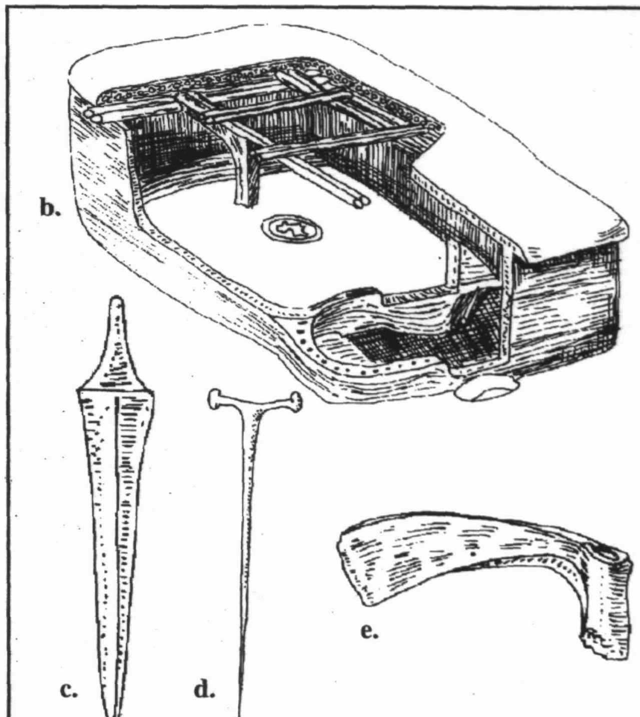
The Kuro-Araxes culture is the major early Bronze Age culture centered on the southern Caucasus but with sites extending also into the northeast Caucasus, eastern Anatolia and northwestern Iran. It dates to *c* 3500–2200 BC and is known from more than three-hundred sites. Its origins are uncertain although at least one component would be the local Eneolithic cultures of the region.

Settlements of the Kuro-Araxes culture tend to be small, about one to two hectares in size, although some large ones exceed ten hectares. There is also evidence of defensive architecture including large stone walls surrounding a settlement. Only one site (Kvatskhelebi) has been excavated fully and offers evidence of about twenty-five rectangular houses arranged in rows; round houses are known from the majority of other sites.

There was a mixed agricultural economy with the raising of cattle, and sheep/goat. Agriculture is well reflected also in the material culture with stone querns and hundreds of metal sickles. The culture appears to have been an early center of



Kuro-Araxes a. Distribution of the Kuro-Araxes culture.



Kuro-Araxes b. Reconstruction of house (Kvatskhelebi); c. Bronze dagger; d. Bronze hammer-head pin; e. Bronze ax.

wheeled vehicle production, and exhibits a precocious metallurgical development which strongly influenced surrounding regions. Bronze tools included axes, awls, sickles and knives; the characteristic metal weapon was the dagger and large bronze spearheads are also known. Bronze ornaments included pins and spiral rings. Other than pottery, clay was also used to fashion figurines and what have been presumed to be altars.

Burials are to be found both in flat graves and under kurgans (tumuli). The graves are generally inhumations on their side (a few cremations are known) and the flat graves may include stone cists while the kurgans may be surrounded by a stone circle (cromlech). Both single burials and collective graves containing what are presumed to be family groups are encountered.

The presence of large tumulus burials in the territory of the culture along with the appearance of rectangular dwellings have been attributed by Marija Gimbutas to a penetration of Kurgan tribes from the steppe. For this reason the Kuro-Araxes culture is sometimes drawn into discussions concerning the migrations of the Anatolian stock into their historical seats. However, the area of the Kuro-Araxes culture and its close cultural contacts with southwest Asian cultures support its association with the Hurrian-Urartian family, one of the major non-IE groups south of the Caucasus. Alternatively, some have claimed that the Kuro-Araxes culture is best identified as linguistically Kartvelian (Georgian).

See also **Armenian Language**; **Kurgan Tradition**. [J.P.M.]

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L

LACK

deu(s)- 'be lacking'. [*IEW* 219 (**deu-*); Wat 12 (**deu-*); Buck 4.91]. OE *tēorian* 'faint, grow weary; fade (of colors)' (> NE *tire*), Grk **δέομαι ~ δεύομαι** (< **deu̯e/o-* and **deuse/o-* respectively) 'feel the want of, lack', OInd *doṣa-* 'crime, fault, vice, want'. Reasonably widespread and probably old in IE.

h$_1$eg- 'be in need, lack; be extinguished'. [*IEW* 290 (**eg-*); Wat 16 (**eg-*); BK 447 (**ak[^{h}]-/*ək[^{h}]-*)]. Lat *egeō* 'need', *egestās* 'lack' *egēnus* (< **eges-no-*) 'lacking', ON *ekla* 'lack', OHG *eko-rōdo* 'only', Hit *aki/akkanzi* 'dies/they die' (< **h$_1$ógei/*h$_1$égn̥ti* 'be extinguished'), TochAB *yäk-* 'neglect, be careless about' (i.e., < *'be lacking with regard to'). If all these words belong together, we have evidence for a word that was widespread and old in IE.

menk- 'lack'. [*IEW* 729 (**men-*); VW 289]. Lat *mancus* 'maimed, infirm' (< *'lacking'), OHG *mengen* (< Proto-Gmc **mangjan*) 'be without, lack, miss', *mangolōn* 'be without, lack, miss', MHG *manc ~ mang* 'lack', Lith *meñkas* 'feeble, weak; scanty; insignificant', OInd *mañkú-* '± wobbly', TochAB *mäṅk-* 'be deprived of, suffer the loss of; lack (impersonal)'. Widespread and old in IE.

das- 'lack'. [*IEW* 178 (**d-es-*)]. Norw (dialectal) *tasa* 'unravel', Hit *das(u)want-* 'blind', OInd *dásyati* 'suffers want, becomes exhausted'. Even if the Norwegian does not belong here, the agreement of Indic and Anatolian would seem to assure the PIE status of this word.

See also Small; Thin. [D.Q.A.]

LAKE

lokús 'lake, water, pool, pond, cistern'. [*IEW* 653 (**laku-*); Wat 35 (**laku-*); Buck 1.33]. OIr *loch* (< **lo/aku*) 'lake', Gaul *penne-locos* ('head of lake'), Lat *lacus* 'lake, cistern', ON *lǫgr* 'water, lake', OE *lagu* (Gmc < **lakú-*) 'water, river, lake', OCS *loky* 'pool', Grk **λάκκος** 'pond, cistern'. The Latin derivative *lacūna* 'cavity, hole, pond' has the generalized Latin *-ūno/ā-* and does not attest an old *-uh$_x$* as in OCS *loky*. The Latin and Greek forms are difficult. If Greek had a zero-grade **h$_x$l̥k-*, it should have given *****ἀλκ-*** (or ***ἐλκ-*** or ***ὀλκ-***); the development of **l̥k-* is unknown but may well have been ***λακ-***. Perhaps late PIE or possibly a loanword.

tenh$_a$g- ~ ***tn̥h$_a$g-*** 'shallow water?'. [*IEW* 1067 (**tenəgos*); cf. Wat 65 (**stag-*)]. Latv *tīgas* (< **tingas*) 'deep spot in water', Grk ***τέναγος*** 'shoal, shallow water'. If the two forms are cognate, the ablaut requires a consonant stem. Lat *stāgnum* 'standing water, pool, pond, swamp' could be from **stnāgum* or **stnāgnum* < **stn̥h$_2$g-* (after **stā-* 'stand'?).

??*h$_1$éĝherom 'lake'. [*IEW* 291–292 (**eĝhero-*); Wat 16 (**eghero-*); Buck 1.33]. OPrus *assaran* 'lake', Lith *ēžeras* 'lake', Latv *ęzęrs* 'lake', OCS *jezero* 'lake', Rus *ózero* 'lake'. These forms are limited to Baltic and Slavic (< **ežera-*) and the only other cited cognate is Grk ***Ἀχέρων*** (river of underworld), which is quite improbable. Uncertain is the connection with Lith *ežẽ* 'frontier', Latv *eža* 'frontier', ORus *jězŭ* 'fish-pond', Rus *jaz* 'fish-pond', from a root noun **h$_1$ēĝh-*.

?*u̯ōp- ~ ****u̯op-*** ~ ****up-*** 'pond'. [*IEW* 1149 (**u̯ep-*); BK 392 (**ħap[^{h}]-/*ħəp[^{h}]-*)]. Lith *ùpė* 'river' (more likely from **h$_2$ep-* 'water'), OCS *vapa* 'pond', RusCS *vapa* (< **u̯ōpeh$_a$-*?; doubtful) 'pond', Hit *wappu* 'riverbank', OInd *vāpī́* (< **u̯ōp-* or **u̯op-*) 'large pond, pool, tank'. The reconstruction is most uncertain as all the possible cognates have been challenged.

See also Fire in Water; Marsh; Sea. [R.S.P.B.]

LAME *see* DEFECT

LARGE

meĝh$_a$- 'large, great' (non-neuter ***méĝōh$_a$***, neuter ***méĝh̥$_a$*** [gen. ***m̥ĝh$_a$ós***]). [*IEW* 708–709 (**meĝ(h)-*); GI 684 (**mek̂'H-*); Wat 39–40 (**meg-*); Buck 13.15; BK 514 (**maG-/*məG-*)]. OIr *maige* 'great, large', MIr *mag-* 'large', Gaul *Maglo-rīx* (proper name), Lat *magnus* 'large', ON *mikill* 'large', *mjǫk* 'much', OE *micel* 'large' (> NE *mickle*), OHG *mihhil* 'large', Goth *mikils* 'great, many', Alb *madh* 'large', Grk *μέγας* 'large', *μεγαίρω* 'envy', Arm *mec* 'large', *mecarem* 'esteem', Hit *mēkkis* (< **meĝh$_a$-i-*) 'much, many, numerous; in large numbers', Av *maz-* 'large', OInd *máhi-* 'large', TochA *māk* 'many', TochB *māka* 'many'. Widespread and old in IE. The *-a-* of Celtic, Latin, Albanian and Tocharian, as opposed to the *-e-* of Germanic, Greek, Armenian, and Hittite (and probably Indo-Iranian), is not easy to explain, more particularly as the distribution of these two vowels does not follow any well-established dialect lines.

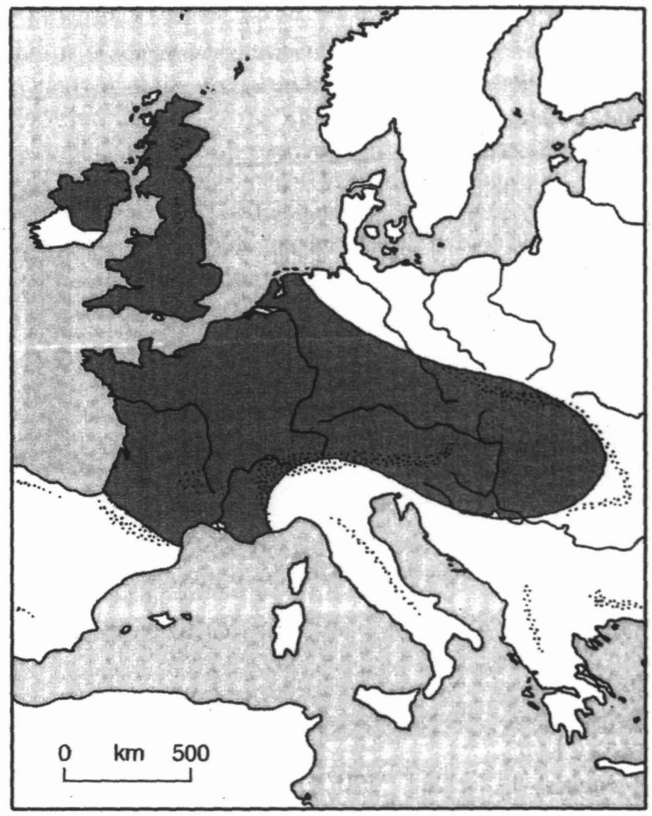
meh$_1$ros* ~ *moh$_1$ros 'large'. [*IEW* 704 (**mē- ~ *mō-*); Wat 39 (**mē-*); Buck 12.55; BK 422 (**ma-/*mə-*)]. From **meh$_1$ros*: ON *mærr* 'known, famous, great', *mæra* 'announce, praise', OE *mǣre* 'known, famous, great', *mǣran* 'announce, praise', OHG *māri* 'news, narrating; known, famous, great', *māren* 'make known', Goth *mēreins* 'news, gospel', *mērjan* 'proclaim', OCS *Vladi-mĕrŭ* (personal name); from **moh$_1$ros*: OIr *mār* (*DIL mōr*) 'large', *mōraid* 'magnifies', Wels *mawr* 'more', Grk *ἐγχεσί-μωρος* 'mighty with a spear'. From **meh$_1$(i)-* 'grow'. Widespread and old at least in the west and center of the IE world.

See also ABUNDANT; GROW. [D.Q.A]

LA TÈNE CULTURE

La Tène, named after a site at Lake Neuchâtel, Switzerland, refers to the major Iron Age culture of western and central Europe *c* 500–1 BC. The culture, primarily identified by its art style, coincides with the early distribution of the Celts, and has been used to identify their movements into Italy, the British Isles and eastwards into Hungary and Romania where La Tène remains are particularly well known from cemeteries. Settlements range considerably. The largest are the hillforts and fortified (proto-)towns or oppida which exhibit considerable evidence for craft specialists as well as purely agrarian economies. The production of weapons, including long iron swords, and defensive architecture, coupled with the evidence of Greek and Roman writers, demonstrate the existence of a hierarchical society with kings, warriors, priests (druids), merchants, farmers and slaves. Moreover, an abundance of ritual evidence, especially seen in watery depositions or votives, and later iconography, provide an invaluable source for the study of Celtic religion and ritual behavior.

The borders of the La Tène culture, however, are not entirely coincident with the historical distribution of all the Celtic languages as, for example, Iberia does not indicate any substantial La Tène presence nor are there many La Tène artifacts known from the southern third of Ireland. For this



La Tène a. Distribution of the La Tène art style.

reason, its predecessor, the Hallstatt culture, which is found over an even broader area, is also often seen to represent the archaeological expression of the Proto-Celts. The expansion of the La Tène art style has also been attributed to exchange and cultural diffusion rather than folk movements. Such an explanation has an obvious validity in some circumstances but is unlikely to explain the entire distribution of this culture.

See also CELTIC LANGUAGES; HALLSTATT CULTURE. [J.P.M.]

Further Readings

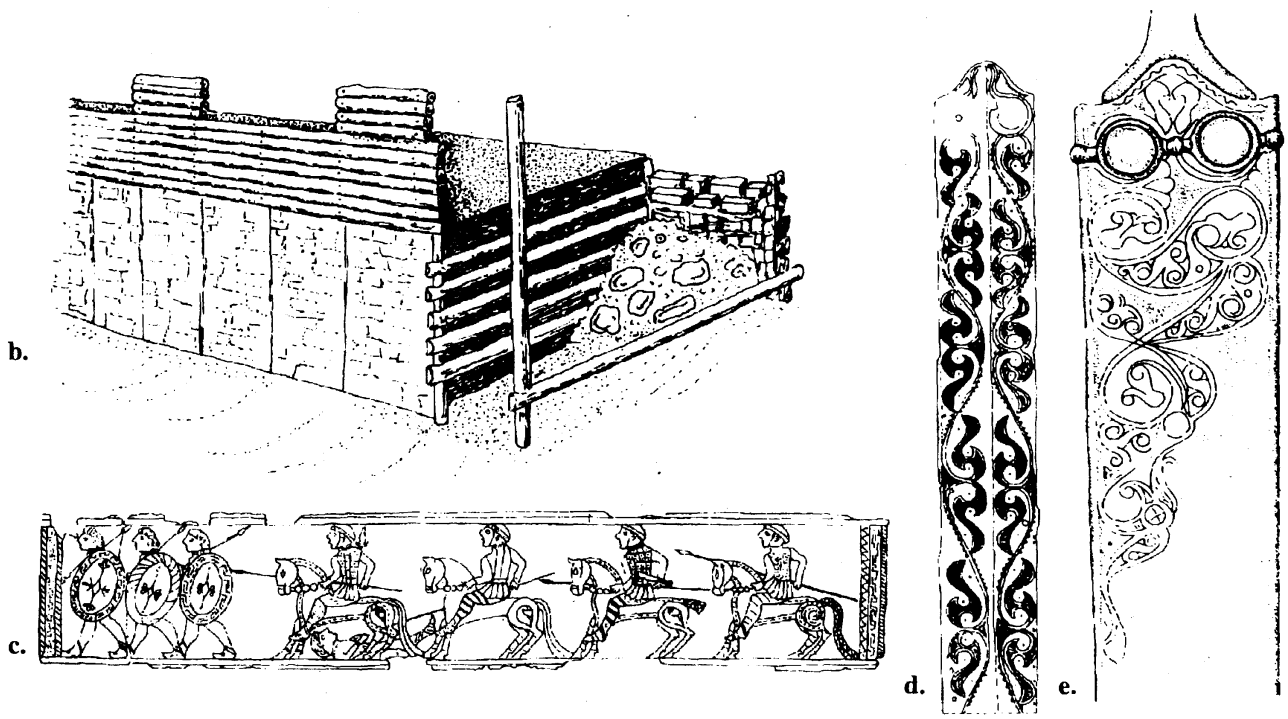
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LAUGH

kha- 'laugh'. [*IEW* 634 (**kha kha!*)]. Lat *cachinnō* 'laugh', OE *ceahhettan* 'laugh loudly', OHG *kachazzen* 'laugh loudly', OCS *chochotati* 'laugh', Grk *κα(γ)χάζω* 'laugh loudly', Arm *xaxank* 'laughter', OInd *ká(k)khati* 'laughs'. Originally an onomatopoeic formation, constantly renewed in the various stocks that have it. Probably reflecting a PIE onomatopoeic word.

smei- 'smile, laugh'. [*IEW* 967 (**(s)mei- ~ *smeu-*); Wat 61–62 (**smei-*); Buck 16.26]. Norw *smila* 'laugh', ME *smīlen* 'smile' (> NE *smile*), Latv *smeju* 'laugh at', OCS *smějǫ* 'laugh',



La Tène b. *Murus Gallicus*, La Tène fortifications from Preist, Germany; c. Cavalry on sword scabbard from Hallstatt, Austria; d. Irish scabbard in La Tène style; e. Hungarian scabbard in La Tène style.

Grk *μειδιάω* 'smile', OInd *smáyate* 'smiles, blushes', TochAB *smi-* 'laugh'. Widespread and old in IE.

gag- 'cackle'. [*IEW* 407 (*gha gha*); BK 291 (**k'ak'-*)]. Lith *gagù* 'cackle', Rus *gogolátĭ* 'cackle', *gógot* 'cackle, loud laughter', Arm *kakačʻem* 'cackle', *kakazem* 'stammer, jabber, lisp'. A word, presumably originally onomatopoeic, of the center of the IE world.

?*suard- 'laugh'. [*IEW* 1040 (**suard-*); Wat 67 (**sward-*)]. Wels *chwarddiad* 'laugh', Grk *σαρδάνιος* '(bitter) laughter', *σαρδάζω* 'scoff, jeer'. If the Celtic and Greek belong together, then we have evidence for a word of the west and center of the IE world.

[D.Q.A.]

LAW

***dhéh$_1$tis** (gen. ***dhh̥$_1$téis**) 'what is established, law'. [*IEW* 237 (**dhə-ti-*); Wat 13 (*dhē-ti-*); BK 70 (**diy-/*dey-*)]. Lat *con-diti-ō* 'basis', ON *dā* 'fact', OE *dǣd* 'deed' (> NE *deed*), OHG *tāt* 'deed', Goth *gadēds* 'deed', Grk *θέσις* 'order', OInd *-dhiti-* 'position'. The distribution indicates PIE status. From **dhéh$_1$-* 'set, place' as is other derivations from the same root: **dhéh$_1$mis* [*IEW* 238 (**dhē-mi-*)]: Grk *θέμις* 'law', Av *dāmi-* 'creation'; and **dhéh$_1$mn̥* [*IEW* 238 (**dhē-men-*); GI 710 (**d^{h}eH-m-*); Wat 13 (*dhə-mn̥*)]: OE *dōm* 'fate' (> NE *doom*), OHG *tuom* 'custom', Goth *dōms* 'sentence, glory', Grk *θέμα* 'assertion', *ἀνάθημα* 'that which is set up, votive offering', Av *dāman-* 'abode', OInd *dhā́man-* 'law'.

***i̯éu̯(o)s** 'law, ritual norm'. [*IEW* 512 (**i̯eu̯os-*); Wat 79 (**yewes-*); GI 706 (**yewo-*); Buck 21.11]. OIr *uisse* (< **i̯ustii̯os*) 'just, right, fitting', OLat *ious* 'law, right, justice, duty', Lat *iūs* 'law, right, justice, duty', *iūrō* 'swear (an oath)', *iūs iūrandum* 'oath', *iūdex* (< **i̯ous-dik̑-* 'law pronouncer') 'judge' (borrowed > NE *judge*), perhaps OCS *istŭ* (if < **i̯ustos*) 'actual, true', Av *yaož-dā-* 'make (ritually) pure', OInd *śáṃca yóśca* 'happiness and health!'. This distribution on the western and eastern peripheries of the IE world assures this word's PIE status.

Indo-European Law

Law in early IE society was apparently designed to maintain the "order" of the universe, the underlying concept that a harmony must be maintained, be it in the physical universe or the social world. Precisely how this order was to be effected may vary from one IE stock to another, most of which reveal some systematic codification of their laws so that we can speak of the law texts of the early Irish, Roman law, the Iguvine tablets, law codes of various Germanic tribes (Burgundian, Salic, etc.), the 'Law of Jaroslav' among the Russians, Albanian traditional law, Greek law, Hittite legal texts, and the Indic law texts, particularly the *Manu-smṛti* 'Code of Manu'. To what extent any comparison of these texts leads us to genetic rather than generic reconstructions is moot (frequent

comparisons can also be made with [non-IE] Mesopotamian law codes) and the establishment of the specific legal vocabulary of Proto-Indo-European has been more elusive, or at least less studied, than that of literary texts.

One of the few terms providing some interstock comparison are those built on *$dheh_1$-* 'place, set, establish'. The concept of 'establish' here would appear to refer not to human but divinely established and guarantied norms of behavior. Hence Emile Benveniste has argued that Grk ***θέμις*** is a set of rules established by the gods and implemented by the ***βασιλεύς*** 'king'. These rules controlled the whole social fabric, though ***θέμις*** applied specifically to situations within the family group. It finds a close parallel in the OInd *dhā́man-* 'law', which again referred to the maintenance of order within households which was particularly associated with the divine wills of Mitra and Varuṇa. There is some evidence then that late IE had a concept of 'household law' built on the root *$dheh_1$-*.

Laws that governed wider relationships in society are more difficult to recover. The root **deiḱ-* 'show' provides some comparative evidence as it underlies essential legal terminology in both Latin and Greek. In Lat *dīcere* the word has come to mean 'speak' but this may apply to specifically legal contexts, e.g., *multam dīcere* 'pronounce a fine', and the word is compounded with the other widespread legal term **i̯éu̯(o)s* 'law, ritual norm' to make *iūdex* (< **i̯ous-diḱ-* 'law pronouncer') 'judge'. The semantic sphere of 'show', Benveniste has argued, indicated a 'verbal showing' of what the norms or laws must be (cf. Old Indic forms built on **deiḱ-* such as *diṣṭi-* 'instruction', *deśá-* 'direction', *diśā* 'direction'). The latter is directly cognate with Grk *δίκη* 'custom, usage; right, law, judgement' and suggests that here the underlying concept was the showing or recitation of a legal formula specific to a particular case. It is clear from many of the earliest written legal codes that we are dealing with earlier oral formulas, memorized by a member of the legal profession and passed on from one generation to another to provide guidance in interpersonal disputes such as those involving compensation (in terms of wealth or blood). Unlike the terms built on *$dheh_1$-* which refer to divinely sanctioned norms, those built on **deiḱ-* appear to have been recognized as laws created by society itself.

The semantics of the second primary legal term **i̯éu̯(o)s* 'law, ritual norm' also hints at distinctions between divinely inspired and secular law. The apparently divergent semantics of Av *yaož-dā-* 'make (ritually) pure' and OInd *yóṣ-* 'happy' are explained by the notion that the Avestan term, a compound 'place *yaoš*', indicated the putting of something into a comfortable state in accordance with ritual prescription, i.e., ritual integrity, and that the Old Indic word indicated not so much happiness but 'physical integrity', i.e., being 'on form'. The compound formation found associated with Lat *iūs* 'law' such as *iūdex* suggest that we are again dealing with formulas, i.e., the *iūs* is originally to be construed as a formula to be recited which is intended to guarantee or restore the norm. In Latin, the *iūs* refers to the norms or laws governing relationships within human society and is distinguished from *fās* 'divine law' (and *nefās* 'contrary to religious law') which is derived from *$bheh_a$-* 'speak' (cf. Lat *for* 'speak', *fātum* 'utterance, oracle'). According to Benveniste, the semantic derivation is explained by the fact that *$bheh_a$-* is typically employed to indicate depersonalized speech, i.e., what is said, fame, rumour, the mystic power of the 'word'.

Although sometimes cited here, there are no grounds for positing a PIE **lēgs* 'law' [Del 78] as Lat *lēx* 'law' is not cognate with the proposed Indo-Iranian forms: Av *rāzar-* 'religious law', OInd *rājáni* 'under the law of'. The latter term actually means 'under the conduct of' and all the Indo-Iranian forms cannot be separated from OInd *rā́j(an)-* 'king' as 'ruler, leader' while Lat *lēx* can be better explained as a root noun to *lēgere* 'read' perhaps by way of 'summation' > '(confirmed and binding) ordinance'.

See also COMPENSATION; OATH; ORDER; SHOW; SPEAK; SWEAR. [E.C.P., J.P.M.]

Further Readings

Benveniste, E. (1973) *Indo-European Language and Society*. Coral Gables, Florida, University of Miami, 379–442.

Watkins, C. (1970) Studies in Indo-European legal language, institutions, and mythology', in *Indo-European and Indo-Europeans*, eds. G. Cardona, H. M. Hoenigswald, and A. Senn, Philadelphia, University of Pennsylvania, 321–354.

LEAD[1]

$neih_x$- 'lead' (pres. ***$nóih_xei$***). [*IEW* 760 (**nei-*); Wat 44 (**neiə-*); Buck 10.64]. Hit *nāi* 'leads', Av *nayeiti* 'leads', OInd *náyate* 'leads'. Very restricted in its geographical attestation but its appearance in Anatolian and Indo-Iranian would seem to assure its PIE status.

$h_2u̯ed(h_x)$- 'lead; take to wife'. [*IEW* 1115–1116 (**u̯edh-*); GI 658 (**Hwedʰ-*); BK 474 (**wad-/*wəd-*)]. OIr *fedid* (*DIL feidid*) 'leads, goes, wears, brings', Wels *arweddu* 'lead, bring', *cyweddaf* 'lead, bring in', *dyweddïo* 'marry', OE *weotuma* 'brideprice', OHG *widema* ~ *widoma* 'bride-price', Lith *vedù* 'lead, marry (said of a man)', *vedė̃klė* 'young man of marriageable age', Latv *vedu* 'lead, marry (said of a man)', *vedekle* 'daughter-in-law', OCS *vedǫ* 'lead' (rarely 'marry'), *voždǫ* 'lead', ORus *voditi ženu* 'bring home a wife', Grk ***ἔεδνα*** 'nuptial gifts (from suitor to bride or her parents, from bride's parents to suitor, or from guests to couple)' (by assimilation from **áedna*), ***ἀνάεδνος*** 'without bridal gifts', Hit *huett(iya)-* 'draw, pull', Av *vaδayeiti* 'leads, pulls', *upa-vāδayeiti* 'gives a woman in marriage', *vaδū-* 'young woman, bride', *vaδrya-* 'nubile', OInd *vadhū́-* 'young woman, bride'. Widespread and old in IE. Though not attested with marriage within its semantic field in Anatolian, the connection of this verb with marriage, more particularly marriage from the man's point of view, is obviously very old in PIE.

See also BRIDE-PRICE; DRIVE; MARRIAGE. [D.Q.A.]

LEAD[2]

There is no reconstructible PIE term for 'lead' although there are some terms that cross the boundaries of individual IE stocks. The absence of a word for 'lead' is interesting in view of the presence of a term for 'silver', a metal which is chiefly extracted from lead ores. For archaeologists the distribution of silver in antiquity may often provide proxy evidence for the distribution of lead.

The ancient Romans do not seem to have distinguished the toxic lead from the far safer tin, identifying both as low-melting 'solder'. That term can be etymologized as **pleu-dhom* 'flowable', apparently a substantized neuter adjective (modifying a presumed PIE **h₂ei̯-es-* 'metal'). This etymon is found in both Italic (Lat *plumbum* 'lead') and Celtic (OIr *lūaide* 'lead'), and seems to have been loaned from Celtic into Germanic (OE *lēad* 'lead' [> NE *lead*], OHG *lot* 'solder'), another sign of the metallurgical status of the early Celts. The Roman author Pliny the Elder noted the use of the descriptive adjectives *nigrum* 'black' and *album* 'white' to distinguish the grayish lead from the brighter and more tarnish resistant tin. Undoubtedly the same technological terminology spread to other people in contact with the Celts. ON *blȳ* 'lead', OHG *blīo* 'lead' are derived from 'blue-gray' (cf. OE *blēo* 'blue, violet, gray') and must refer to the oxidized grayish cast of the metal. The Baltic (Lith *álvas* 'lead') and Slavic (Rus *ólovo* 'lead') forms have been the subjects of much speculation concerning possible Finno-Ugric loans. However, loans from this relatively metal-poor and technologically backward region are less likely than a loan from the metal-rich Erzgebirge which was inhabited by the Celts. The Slavic term **olovo* (Rus *ólovo*, SC *ȍlovo*, Pol *ołów* 'lead') and its Baltic counterpart represented by OPrus *alwis*, Lith *álvas* (the alternative *ālava* is a loan from Slavic), and Latvian *al̃vs* are semantically ambiguous, signifying either 'lead' or 'tin'. The correspondence of initial Slavic [*o*] and Baltic [*a*] points to an ambiguous non-front, non-high IE vowel which may be symbolized as **ă*. The accent revealed by the Lithuanian form and the post-resonant vowel point to a lost Indo-European laryngeal, denoted by the symbol $*h_x$. Our Baltic and Slavic terms then reconstruct to $*\check{a}lh_x\underset{\frown}{u}om$. Such a word may be a borrowing from central European Celtic (stem-accented *u̯o*-adjectives in IE are usually *o*-grades which would have given Proto-Celtic $*olh_xe\underset{\frown}{u}o$) though no actual Celtic descendant is known, or from some non-Indo-European, metallurgically sophisticated group in central Europe.

The commonest Greek form for 'lead' is Myc *mo-ri-wo-do* 'lead', Attic-Ionic *μόλυβδος* (Homeric *μόλιβος*) while Delphic *βόλιμος* 'lead' most closely resembles the Basque form, *berún*, in its general phonetic shape, but with such a repetition of labials, liquids and sonorants, any number of metatheses are possible. Nevertheless, the Greek forms have frequently been connected with Basque, and there is nothing inherently improbable in such an inner Mediterranean relationship given the importance of the Iberian peninsula as a source of metals. The Greek and Basque terms might reflect an "Aegean" word for 'lead', which, like many of the items regarded as part of this stratum of the Greek lexicon, has syllables of open sonority and indeterminate liquids. Thus the original Mediterranean word for 'lead' could have been something like **bö-lü-mo-* However, the efforts to add OIr *lūaide* and Lat *plumbum* or even Slavic *ólovo* and Lith *àlavas* to this set of cognates complicate phonetic matters far beyond what is necessary and these words have been explained differently above. Moreover, the motivation for a Basque > Aegean loan is not altogether clear. For example, Iberian lead is found primarily in Cartegena, Portugal, and the Huelva province in Spain, all areas distant from the Basques while we know from the beginning of the Bronze Age that the Greeks were already exploiting local sources of lead far earlier than their first millennium entry into the Iberian market. Hittite reveals a Near Eastern orbit in its Sumerogram designations, $A.GAR_5$ and A.BÀR. The full form, Hit *suli(ya)-* seems to be an adjective 'dark', again a reference to the grayish oxide coating that lead develops upon exposure to air.

Archaeological Evidence

Lead is distributed more widely than either copper or tin in nature and may be found from the Atlantic right across Eurasia. It is generally obtained in the form of the ore galena whose gray/black color may help explain its association with color terms in some IE languages. Lead artifacts are known in the Aegean from at least the third millennium BC, e.g., a double-ax fashioned in lead from Mochlos and bars of lead and a lead figure from the Cyclades, while it is also found on mainland Greece at the same time. Some objects of lead are also known from the north Caucasus (Maykop culture) from *c* 3000 BC. Lead objects are also found in the Harappan culture. One might expect that there would be widespread loan words concerning lead by the late Bronze Age, *c* 1200 BC. By this time lead was deliberately being alloyed with bronze in order to reduce the bronze's melting temperature and thereby ease casting difficulties. In the areas of Asia occupied by the Indo-Europeans, the deliberate alloying of lead is seen in the Harappan culture and earlier in the third millennium in Turkmenistan (in Vedic texts, OInd *sī́sa-* 'lead' is found coupled with copper and tin). In the west such alloys would have diffused from central and western Europe and the possibility of a widespread Proto-Celtic term for lead might receive some archaeological support. While lead objects themselves were normally not made in any great number, the one major exception is the Armorican (Brittany) axes of the late Bronze Age, i.e., *c* 700 BC. Here, a series of shaft-hole axes, usually with an exceptionally high lead content (30–60%) or entirely fashioned from lead, were manufactured in Brittany and Normandy. Their find contexts are often hoards with as many as 4000 in a single deposit and they are found widely over western Europe. There are sound reasons to dismiss these as non-functional axes—they are often too soft, incapable of holding a cutting edge, lacking their shaft-holes, etc.—and, consequently, are more easily interpreted as a form

of ingot or currency. While it is probable that these axes circulated within a general Celtic environment (the British Isles to north Germany and Switzerland), there is really no evidence that they may have penetrated those regions traditionally ascribed to the earliest Baltic and Slavic settlement.

See also GOLD; METAL; SILVER; TIN. [M.E.H., J. P. M.]

LEADER

h_aeĝós 'leader'. [*IEW* 5 (**aĝ-*); cf. Wat 1 (**ag-*); BK 397 (**ħek'-/*ħək'-*)]. Lat *prōd-igus* 'lavish', Grk *ἀγός* 'leader', OInd *ajá-* 'driver'. The semantic field indicating 'leader' is confined to Greek and Indo-Aryan and may suggest a southeastern term. The Greek term applies specifically to heroes. From **h_aéĝ-* 'drive, push'.

****kor̥ionos*** 'leader'. [*IEW* 615 (**kor̥io-no-s*); Wat 32 (**koro-*); GI 644]. ON *Herjann* 'army-chief, i.e., Ōðinn', Grk *κοίρανος* 'army leader'. The word is derived from **kor̥ios* 'army' with the IE suffix **-no-* denoting leadership (cf. Lat *domus* 'house' and *dominus* 'head of the house(hold)', Goth *þiuda* 'folk' and *þiudans* 'head of the people'). The Greek word specifically referred to the king in time of war while the king in peacetime seems to have been designated by *(ϝ)άναξ* and *βασιλεύς* but survives perhaps in the name of Mycenaean officials *ko-te-re*. Attempts to set Hit *kuriwanas* 'independent' here are dubious and it may be argued from the meager distribution of this word and the productive formation that it was independently created in several stocks sharing the PIE word for 'army'.

****tagós*** 'leader'. [*IEW* 1055 (**tāg-*); cf. Wat 69 (**tāg-*)]. Grk *τᾱγός* 'leader', TochA *tāśśi* (pl.) 'leaders', TochB *ṣle-taś* '± mountain-commander', *ywārc-taś* '± commander of the central region' (Toch < **tagius*). Compare Lith *pa-togùs* 'agreeable; ordered' (the long vowel in Baltic is regular before an unaspirated voiced stop). From **tag-* 'put in order, arrange'.

****u̯ik̂pots*** 'master of the clan'. [*IEW* 1131 (**u̯(e)ik̂-potis*); GI 646]. Lith *viẽšpatis* ~ Lith *viẽšpats* 'master', Alb *zot* (< **dzwåpt* < **wtsā* + *pŏt-*) 'lord', Av *vīspaitiš* 'master of the clan', OInd *viśpáti-* 'head of the household'. Cf. also the feminines: OPrus (acc.) *waispattin* 'woman of the house', OInd *viś-pátnī* 'woman of the house'. From **u̯ik̂-* 'clan, extended family' (cf. **u̯óik̂os* 'settlement') and **pot-* 'master, lord'. The *Avesta* lists the various leadership terms in ascending rank of authority as *dmāma-paiti-* 'master of the household', *vīspaiti-* 'master of the clan', *zantu-paiti-* 'master of the people', and *dahyu-paiti-* 'master of the ?world' with *vīspaiti-* as the highest rank for which one may derive other IE cognates. Distribution indicates at least a word of the center and east of the IE world.

See also ARMY; COMPANION; DRIVE; KING; MASTER; PUT IN ORDER; SOCIAL ORGANIZATION. [E.C.P., J.P.M.]

LEAF

****bhóliom*** 'leaf'. [*IEW* 122 (**bhel-*); Wat 7 (**bhol-yo-*); GI 389 (**b^hloH-*); Buck 8.56; BK 11 (**bul-u-/*bol-u-*)]. Lat *folium* 'leaf', Grk *φύλλον* 'leaf; plant'. Cf. MIr *bileóc* 'little leaf'.

****bhl̥h_ad-*** 'leaf'. [*IEW* 122 (**bhel-*); GI 389 (**bhlH̥-*); Buck 8.56; BK 11 (**bul-u-/*bol-u-*)]. ON *blað* 'leaf, blade of grass', OE *blæd* 'leaf, blade of grass' (> NE *blade*), OHG *blat* 'leaf, blade of grass', TochA *pält* 'leaf', TochB *pilta* 'leaf'. Both of these words are restricted to two stocks. Both may have been present dialectally in late PIE. From **bhel-* '± blossom, bloom'.

****dhal-*** 'sprout'. [*IEW* 234 (**dhăl-*); Wat 13 (**dhal-*)]. MIr *duille* 'leaf', Wels *dail* 'leaf', Alb *dal* 'arise, appear, emerge, leave', Grk *θάλλω* 'bloom', Arm *dalar* 'green'. A word of the west and center of the IE world.

See also FLOWER. [D.Q.A.]

LEAN

****k̂lei-*** 'lean'. [*IEW* 600–602 (**k̂lei-*); Wat 31 (**klei-*); Buck 9.14]. MIr *clē* 'left; defective, bad', Wels *cledd* 'left', Lat *clīvus* (noun) 'slope', *clīvis* 'inauspicious', OE *hlinian* 'lean' (> NE *lean*), OHG *hlinēn* 'lean', Goth *hleidumei* 'left', Lith *šliẽti* 'lean against', Latv *sliet* 'lean against', Rus *sloj* 'layer, level', Grk *κλῑνω* 'cause to lean', Av *sray-* 'lean', OInd *śráyate* 'clings to, leans upon', TochA *klā(w)-* (with secondary *-w-*) 'fall', TochB *klāy-* 'fall' (< an iterative-intensive **k̂lōi-* 'lean over [so as to fall]'? or 'decline very much' > 'fall'?), TochB *kläsk-* 'set (of the sun)' (< **k̂li-sk̂e/o-*; cf. Grk *τὸ ἦμαρ κλίνεται* 'the day wanes'), TochAB *klin-* 'be necessary' (< 'depend on' < 'lean against'). Although the present stems vary from one language to another, the basic root is well attested and can be reconstructed with confidence. Note the particular semantic development in western Indo-European to 'left, inauspicious', probably from the notion of 'crooked, wrong' < 'lean, not straight'.

****knei-g^wh-*** 'lean'. [*IEW* 608 (**knei-g^uh-* ~ **knei-b-*); Wat 3 (**kneig^wh-*)2]. Lat *cōnīveō* (< **com-nigu-* 'lean together [the eyelids]') 'blink', ON *hnīga* 'to bow', OE *hnīgan* 'to bow', OHG *hnīgan* 'to bow', Goth *hneiwan* 'to bow'. Distribution suggests a late west European dialectal form.

See also DIRECTION; LEFT. [M.N.]

LEARN

****men(s)-dh(e)h_1-*** 'learn' (< *'place in the mind'). [*IEW* 730 (**mendh-*); Wat 41 (**mendh-*); Buck 17.24; BK 519 (**man-/*mən-*)]. Wels *mynnu* 'wish', ON *munda* 'strive for, aim', OHG *mendōn* 'rejoice', *muntrī* 'zeal', *munter* 'lively', Goth *mundōn* 'pay attention to, observe', *mundrei* 'goal', Lith *mañdras* 'lively, awake', Latv *muõdrs* 'lively, awake', OCS *mǫdrǫ* 'wise', Alb *mund* 'be able', Grk *μανθάνω* 'learn', Av *mazdā* 'wisdom', *mąz-dā-* 'stamp in the memory', *mąddra-* 'wise', OInd *medhā́* 'wisdom'. A compound, old in IE, of **men(es)-* 'mind' + **deh$_1$-* 'place, put'.

See also THINK. [D.Q.A.]

LEATHER *see* HIDE[2]

LEAVE

****leik^w-*** 'leave (behind)' (pres. ****li-né-k^w-ti***). [*IEW* 669 (**leik^u-*); Wat 36 (**leik^w-*); GI 39 (**leik^h-*)]. OIr *lēicid* 'leaves',

Lat *linquō* 'leave', *liceō* 'be for sale', ON *ljā* 'lend', OE *lēon* 'lend' (> NE *loan*), OHG *līhan* 'lend', Goth *leihvan* 'lend', OPrus *polīnka* 'remains', Lith *liekù* (~ dialectally with *linkù*) 'leave', Grk λείπω 'leave', Arm *lk'anem* 'leave', Av *irinaxti* 'releases', OInd *riṇákti* 'leaves, gives up, releases', perhaps TochB *plänk-* (if < **(h$_1$é)pi-li-n-k^w-*) 'be for sale'. Widespread and old in IE.

***deuh$_4$-** 'leave, go far away'. [*IEW* 219–220 (**deu-*); BK 139 (**t'aw-/*t'əw-*)]. OHG *zouwen* 'hasten, proceed, succeed', Grk δήν (< **du̯eh$_4$m*) 'long, for a long time; far', Hit *tūwa* 'to a distance, afar', *tūwala-* 'distant, remote', Av *dūrāṯ* 'far', OInd *dávati* 'goes', *daváyati* 'makes distant, removes', *dūtá-* 'messenger, envoy', *dūrá-* 'distant, remote'. Widespread and old.

***ĝheh$_1$-** 'leave' (pres. ***(ĝhi/e)ĝheh$_1$ti**). [*IEW* 418–419; (**ĝhē-*) Wat 21 (**ghē-*); GI 33 (**G^{h}ē-*); Buck 10.47]. OE *gān* 'go' (> NE *go*), OHG *gān* 'go', CrimGoth *geen* 'go', Grk κιχάνω 'light upon, meet with, arrive at', Av *zazāmi* 'leave off', OInd *jáhāti* 'leaves'. Sparsely attested but the geographical distribution of the few attestations would seem to guarantee its PIE status.

***leh$_1$d-** 'leave'. [*IEW* 666 (**lē(i)-*); Wat 35 (**lē-*)]. ON *lāta* 'leave', OE *lǣtan* 'leave' (> NE *let*), OHG *lāzan* 'leave', Goth *lētan* 'leave', Lith *léidžiu* 'leave', Latv *laîst* 'leave' (the *-i-* of the Baltic forms is without a good explanation), Alb *lë* (< **lh$_1$d-ne/o-*) 'leave, let, abandon, allow'. Perhaps originally identical with the homophonous **leh$_1$d-* 'be tired'. Unextended by **-d-* we have Hit *lā(i)-* 'let go, allow'. With Anatolian, sufficiently widely attested to guarantee PIE status.

See also LONG; REMAIN; TIRED. [D.Q.A.]

LEECH

***ĝelu-** 'leech'. [cf. *IEW* 365 (**gel-*)]. OIr *gil* 'leech', Wels *gêl* 'leech' (< Celt **ĝelu-*), NPers *zalū* 'leech', Kurdish *zalū* 'leech', OInd *jalūkā-* 'leech', presumably from a verb **ĝel-* '± swallow' (compare OIr *gelid* 'grazes, consumes'). If the Celtic and Indo-Iranian words belong together their distribution would seem to guarantee PIE status for this item.

See also ANIMAL; FISH; INSECTS. [D.Q.A.]

Further Reading

Witczak, K. T. (1992) Indo-European word for 'leech' and its Nostratic equivalents. *Archív Orientální* 60, 38–42.

LEFT

***laiu̯os** 'left'. [*IEW* 652 (**laiu̯o-*); Wat 35 (**laiwo-*); GI 686; Buck 12.42]. Lat *laevus* 'left', OCS *lěvŭ* 'left', Grk λαι(ϝ)ός 'left', TochB *laiwo* '± lassitude'. Perhaps from **lei-* 'bent' if the expected ***leiu̯os* was crossed with **skaiu̯ós* 'left'.

***seu̯ios** 'left'. [*IEW* 915 (**seu̯io-*); GI 686; Buck 12.42]. OCS *šujĭ* 'left', Av *haoya-* 'left', OInd *savyá-* 'left'. Nominalized form of **seu-* 'turn', probably through the meaning 'bent'.

***skaiu̯ós** 'left'. [GI 686; Buck 12.42]. Lat *scaevus* 'left', Grk σκαιός (< **σκαιϝός*) 'left'. Cf. OIr *ciotan* 'left', Lith *kairė̃* 'left hand', *kairỹs* 'left'. A word of at least the west and center of the IE world.

There is no single widespread inherited term for 'left' although each of the above indicates considerable antiquity and is associated with the concept of 'bent', the left-side being regarded as unpropitious among the early Indo-Europeans as well as many other language groups. Linguists generally ascribe the absence of a single word for 'left' to the negative associations of the term which would have invoked taboo replacements while the more positive term for 'right' would have been far more stable. It has also been observed that each word retains the deictic particle **-u̯e/o-*, which has been long seen to mark opposition, i.e., where two qualities are in direct contrast, the "positive" is the unmarked and the "negative" is marked by the particle **-u̯e/o-* which is frequently found in indicating directional, sexual or seasonal oppositions. Thus, the semantic associations of 'left' in the various IE stocks (and also among many non-IE as right and left markedness is a universal) are broadly feminine and negative, i.e., left indicates the female side, matrilineality, chthonic, unlucky, unordered, weakness, and is expressed in polar opposition as 'north'. These associations have been renewed within the IE languages on numerous occasions, e.g., OIr *clē* 'left; malign, inauspicious, sinister, bad', Wels *chwith* 'left; strange; sad', Lat *sinister* 'left; wrong, perverse' which was then further replaced in some Romance languages, e.g., the Romanian term for 'left' means 'tired', i.e., 'the weaker' (hand), OE *lyft-* 'left' beside Fris *luf* 'weak', or, in a seasonal opposition, e.g., ON *vinstri* 'left' which must be compared with Goth *wintrus* 'winter'.

See also COSMOLOGY; RIGHT. [A.D.V.]

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LEG

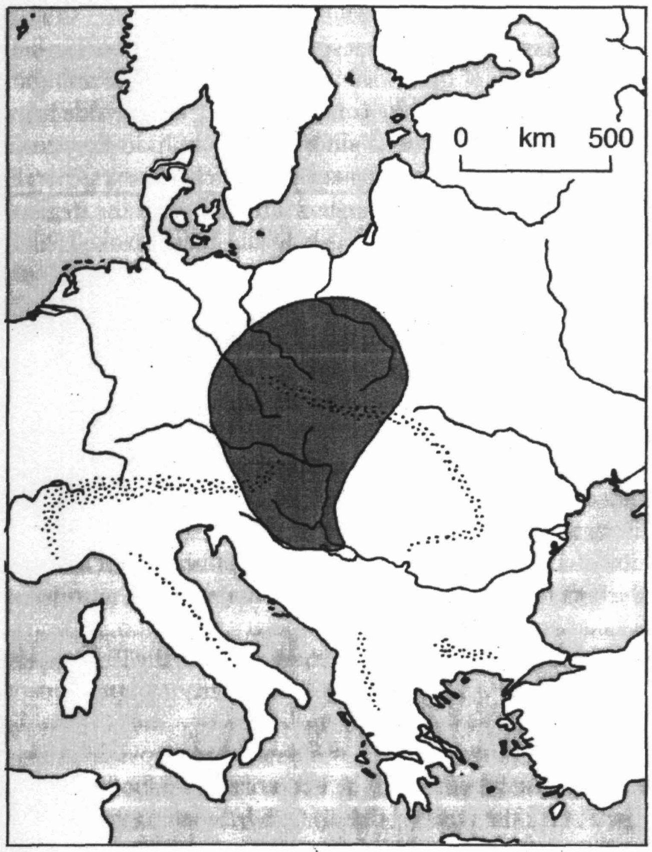
***kónh$_a$m̥** (gen. ***kn̥h$_a$mós**). 'lower leg, shin'. [*IEW* 613–614 (**konəmo-*); Wat 32 (**konəmo-*)]. OIr *cnāim* 'leg', ON *hǫm* 'lower leg', OE *hamm* 'ham' (> NE *ham*), OHG *hamma* 'hollow of the knee, ham', Grk κνήμη (Aeolic/Doric κνᾱμα) 'tibia, spoke of wheel'. Though only attested when extended by **-i-* or **-o-*, the underlying morphology (apparently an old *m*-stem) is very archaic and it is likely that this word is of PIE date.

***sók^{w}t** (gen. ***sek^{w}tnós**) '(upper) leg'. Rus *stegnó* (< **segdnó-* < **sektnó-*) 'hip, groin, thigh', Hit *sakutt(a)-* 'upper leg', Av *haxti-* 'hip', OInd *sákthi* (gen. *sakthnás*) 'thigh'. Sufficiently widespread as to guarantee PIE status. It is tempting to add Wels *hegl* (< **sektlo-?*) 'leg' to this group but the lack of labialization on the **-k-* is difficult.

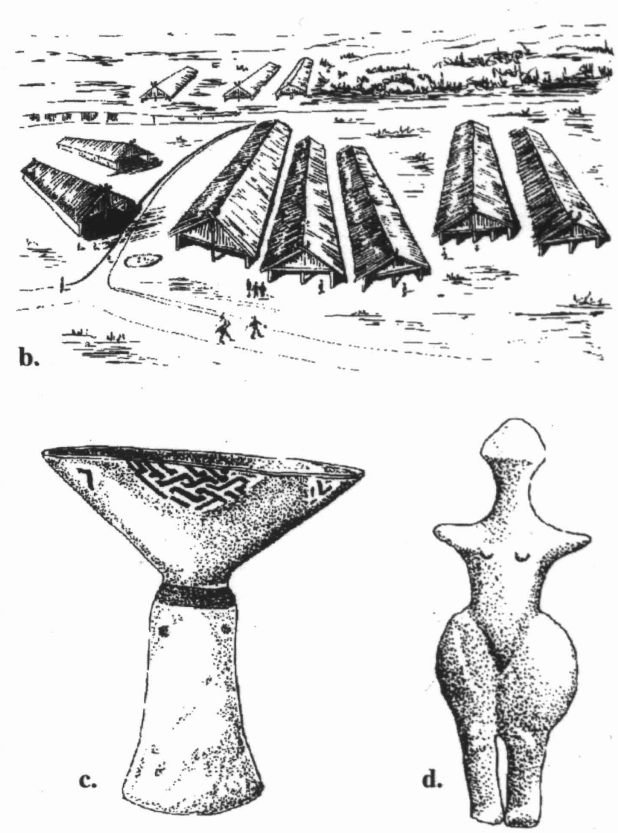
See also ANATOMY; FOOT; HAUNCH; LIMB. [D.Q.A.]

LENGYEL CULTURE

The Lengyel culture was the eastern successor to the Linear



Lengyel a. Distribution of the Lengyel culture.



Lengyel b. Reconstruction of a Lengyel village in Poland; c. Lengyel painted "fruitstand"; d. Lengyel female figurine.

Ware culture, especially in the lands west of the Tisza river, i.e., southern Poland south to Croatia and from Hungary, Slovakia and northeast Austria. The culture dates to *c* 5000–3400 BC. Lengyel settlements include both ditch-enclosed and open villages where small houses and the much longer houses of the earlier Linear Ware culture are well known. In some instances the large enclosures lack evidence for settlement and a ceremonial purpose is supposed. Cattle predominates in faunal remains followed by pig and small quantities of sheep/goat. Both wheat and barley are also known and the settlements are presumed to have had much the same economy as the earlier Linear Ware sites although some faunal samples produce markedly higher percentages of wild animals. Proximity to southeast European ceramic traditions may help account for the popularity of painted wares among the earlier phases of the Lengyel culture; also, the Lengyel culture participated in the production of cult vessels and figurines, again characteristic traits of the more southerly cultures. Burials are found in cemeteries, some of which are quite large. They are typically flexed inhumations on either side accompanied by pottery, ornaments, stone and sometimes copper implements. In some instances male burials lack their skulls or have their jaws replaced by the mandible of a pig.

The Lengyel culture is largely dismissed as non-Indo-European by proponents of the Kurgan solution to the IE homeland problem; however, it plays an integral part in defining the early distribution of the Indo-Europeans by those who support a Danubian origin. It is also a possible component in the origins and dispersals of both the TRB and Globular Amphora cultures.

See also LINEAR WARE CULTURE. [J.P.M.]

LEOPARD

??*singĥós 'leopard (*Panthera pardus*)'. [GI 427 (**sinĝʰo-*); Buck 3.72]. Arm *inj ~ inc* 'leopard', OInd *siṃhá-* 'lion'. TochA *śiśäk* 'lion' and TochB *ṣecake* 'lion', although sometimes placed here, do not belong but may be related to Lat *saeta* 'bristly hair'. The correspondence between Armenian and Indic has led a number of scholars to postulate an inherited PIE word for 'lion', here assuming that it is Indic that has retained the original meaning of this word. There are considerable difficulties with this proposition. If the pre-Armenians, as is generally supposed, entered Anatolia from the west, having moved south through the Balkans in association with their nearest IE relatives the pre-Greeks, they would constantly have been in areas where lions were native. There would have been little reason to reassign a word for 'lion' to another, quite different, felid. On the other hand,

pre-Indic speakers should have sojourned for a long period of time on the Kazakh steppes and areas around them that have never been the habitat of lions. It would be remarkable if they kept an old word for 'lion' alive in some fashion (as the designation of another felid or a mythical beast?) and then just happened to reassign it to lions on re-entering areas inhabited by lions (Iran, Afghanistan). Perhaps the simplest hypothesis, assuming that the Armenian and Indic words belong together, is that the Armenian word retains the original meaning, and it is the Indo-Aryans who applied it to the lion upon entering northern India.

Evidence for leopards is not common although remains have been recovered from the Anatolian Neolithic site of Çatal Hüyük where they are also depicted on the walls of shrines. That part of their historical range pertinent to the IE stocks includes the north Caucasus, Anatolia, Iran and Baluchistan across northwest India and much of China. To any discussion of the leopard should also be added the Ounce or Snow Leopard (*Panthera uncia*). While its recent distribution is limited to Turkestan, the Altai and south to the Pamirs, it was a regular motif of the art of the eastern Iranian steppe nomads who occupied the entire Pontic-Caspian steppe during the Iron Age.

See also LION; MAMMALS. [D.Q.A., J.P.M.]

LESS

mei- 'less' (adjective ***minus*** 'small', verb ***minéuti*** 'lessens'). [*IEW* 711 (**mei-*); Wat 40 (**mei-*)]. Corn *minow* 'lessen', Lat *minus* 'small', *minuō* 'lessen', ON *minnstr* 'smallest', OHG *minnisto* 'smallest', Goth *minnists* 'smallest' (Gmc < **minu̯-ist-*), Grk *μινυώριος* 'short-lived', *μινύθω* 'lessen, decrease', OInd *mināti* ~ *minóti* 'lessens', *mī́yate* 'gets smaller', perhaps TochAB *mi-* 'hurt, harm (grievously)'. Widespread and of PIE status.

See also LACK; NUMERALS (FOUR); SMALL [D.Q.A.]

LIBATION

spend- 'make an offering, perform a rite; engage oneself by a ritual act' (pres. ***spóndei*** [middle ***spn̥dó(to)r̥***]). [*IEW* 989 (**spend-*); Wat 63 (**spend-*); GI 562 (**spʰent'-*)]. Lat *spondeō* 'promise, vow', Grk *σπένδω* 'pour a libation; conclude a pact' (i.e., to make the gods guarantors of a certain action), *σπένδομαι* 'take one another as mutual guarantors; enter into a mutual agreement; accept a guarantee', Hit *sippand-* ~ *ispand-* 'pour a libation', TochAB *spänt-* 'trust' (< *'accept a guarantee'). Widespread and ancient in IE.

ĝhéumn̥ 'libation'. [*IEW* 447 (**ĝheu-*); Wat 22–23 (**gheu-*)]. Grk *χεῦμα* 'that which is poured', Phryg *ζευμάν* 'libation', OInd *hóman-* 'libation', *hotrá-* 'offering', *hótar* 'priest', cf. Arm *jawnem* 'offer, consecrate', Av *zaoθra-* 'sacrifice', *zaotar-* 'priest'. From **ĝheu-* 'pour'.

leib- 'pour, make a libation'. [cf. *IEW* 664 (**lē/ei-*); Wat 36 (**lēi-*)]. Lat *lībāre* 'taste, sip; pour out, make a libation', *lībum* 'sacrificial cake (soaked in honey)', Grk *λείβω* 'pour out (drop by drop)'. Although attested in only two stocks, it would appear that we have the reflex of something of some antiquity in IE in this word.

PIE **spend-* poses certain problems of interpretation. As E. Benveniste observed, the Hittite word indicated purely a religious act, i.e., a part of a sacrifice, while the Latin was entirely juridical, e.g., it is used characteristically in the wedding ceremony where the response to being asked whether one gives one's daughter or takes one's daughter to be someone's wife is *spondeō* 'I do (pledge)', cf. the derivative *spōnsus* 'husband' and *spōnsa* 'wife' which by way of French gives NE *spouse*. The Greek cognates include both concepts, i.e., 'pour a libation' and 'conclude a pact' and the context of the former meaning does not always suggest that the libation was at the conclusion of an agreement. In its earliest attestations, in Homer, the term indicates 'to pour a libation' on the occasion of some particularly difficult situation as a way to invite the support of the gods to protect someone. The middle form *σπένδομαι* indicates that it is not so much the gods but the individuals involved who take each other as guarantors. Benveniste argued that the underlying semantic development began with the 'libation' and then developed its juridical sense of 'make an agreement, accept a guarantee'.

The proper libation is indicated by **ĝhéumn̥* which derives from a well attested verb **ĝheu-* 'pour'. While the Greek word suggests the pouring of any liquid, the Old Indic form refers specifically to the pouring of the melted butter on the sacrificial fire. It has also been observed that **ĝheu-* 'pour' is employed in Latin, Greek and Old Indic not only for the pouring out of liquids but also speech, particularly that concerned with sacrifices in Indic, e.g., 'these songs of praise...I pour (*juhomi*) to the Ādityas...with an offering spoon' (*RV* 2.27.1), and elevated poetic passages in Greek, e.g., 'may you hear from me pouring forth (*χεούσας*) prayers...' (Aeschylus *Suppliants* 631), and Latin, e.g., 'had Cloanthus not poured forth (*fudisset*) prayers...' (*Aeneid* 5.234). These may either be independently developed metaphors or reflect an earlier IE motif that associated the 'pouring out' of both liquid offerings and prayers.

The form **leib-* suggests the dripping of a liquid in offering. In Homer it is employed in contexts suggesting that it represented a few drops poured from a cup before its consumption in order to appease the deities.

See also PRAY; SACRIFICE. [D.Q.A., J.P.M.]

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LICK

leiĝh- 'lick'. [*IEW* 668 (**leiĝh-*); Wat 36 (**leigh-*); Buck 4.5]. OIr *ligid* 'licks', Wels *llyfu* 'lick', Lat *lingō* 'lick', OE *liccian* 'lick' (> NE *lick*), OHG *lecchōn* 'lick', Goth *bi-laigōn* 'lick', Lith *liežiù* ~ *laĩžau* 'lick', OCS *lizati* 'lick', Grk *λείχω* 'lick',

Arm *lizem* 'lick', Av *raēza-* 'lick up', OInd *leh-* 'lick'. Widespread in IE, it is likely to have been the primary word for 'lick'.

lab- 'lick'. [*IEW* 651 (**lab-*); Wat 34 (**lab-*); Buck 4.59]. Lat *lambō* 'lick', NIce *lepja* 'slurp', OE *lapian* 'lap' (> NE *lap*), OHG *laffan* 'lick', Grk *λάπτω* 'slurp, drink', Arm *lap'el* 'lick'. Reasonably widespread and at least a word of the west and center of the IE world, but phonologically marked as a "popular" word by both the /a/ and /b/. See also **leb-* 'lip'.

lak- 'lick'. [*IEW* 653 (**lak-*); BK 589 (**lak[^{h}]-/*lək[^{h}]-*)]. Lith *lakù* 'lap up', OCS *ločų* 'lick', Arm *lakem* 'lick'. Probably in origin an onomatopoeic word in late PIE where it was confined to certain central dialects.

See also EAT AND DRINK; KISS; SUCK. [D.Q.A.]

LIE[1]

k̂ei- 'lie'. [*IEW* 539 (**k̂ei-*); Wat 27–28 (**kei-*); GI 256 (**k̂^{h}ei̯-*); Buck 12.14; BK 259 (**k[^{h}]ay-/*k[^{h}]əy-*)]. Grk *κεῖμαι* 'lie', Hit *kittari* 'lies', Av *saēte* 'lies, rests', OInd *śáye* 'lies'. All cognates agree in conjugating this verb in the middle voice rather than the active. Distribution secures PIE status at least to the center and east of the IE world. In IE poetic language this root also conveys the sense of lying deceased, e.g. Grk (Homeric) *κεῖται Πάτροκλος* 'Patroklos lies', OInd *áhiḥ śayate* 'the serpent lies'.

legh- 'lie'. [*IEW* 658–659 (**legh-*); Wat 35 (**legh-*); GI 186 (**leg^h-*); Buck 12.14; BK 587 (**lag-/*ləg-*)]. MIr *laigid* 'lies', Lat *lectus* 'bed', OE *licgan* 'lie' (> NE *lie*), OHG *ligan* 'lie', Goth *ligan* 'lie', OCS *lěžati* 'lie', Grk *λέχεται* 'lies', Hit *lāki* 'lays aslant', *lagāri* 'lies aslant', TochA *lake* 'bed', TochB *leke* 'bed', *lyäk-* 'lie'. Although most languages treat this verb as thematic, the Homeric Greek aorist form *λέκτο* suggests that the verb originally belonged to the athematic conjugation. It is striking that in several languages this root parallels **sed-* 'sit', e.g., OIr *saidid* 'sits' with *laigid* 'lies', Goth *sitan* 'sits' with *ligan*, OCS *sędǫ* 'sit down' with *lěžǫ* 'lie down'. Distribution secures PIE status. A suffixal *o*-grade form of the root **logh-o-* may underlie ON *lǫg* (pl.) 'law', borrowed into English as OE *lagu* (> NE *law*), via the meaning 'something laid or fixed'. A similar semantic development is exemplified by OE *dōm* 'statute, law, judgement' (> NE *doom*), which is based on the root **dheh$_1$-* 'put, place'. A lengthened-grade form of the root **lēgh-* underlies Germanic and Baltic forms meaning 'low, flat, level' (< *'lying down flat'): ON *lāgr* 'low', OE *lāh* 'low' (> NE *low*), MHG *læge* 'flat', Lith *lė̃kšnas* 'flat', Latv *lę̃zns* 'flat'.

See also BED. [M.N.]

LIE[2]

leugh- 'lie, tell a lie'. [*IEW* 686–687 (**leugh-*); Wat 37 (**leugh-*); Buck 16.67]. ON *ljūga* 'lie', OE *lēogan* 'lie' (> NE *lie*), OHG *liugan* 'lie', Goth *liugan* 'lie' (cf. ON *lokka* 'allure, entice', OE *loccian* 'attract, entice, soothe', OHG *lochōn* 'entice' < **lughneh$_a$-*), Lith *lūgóti* 'ask', Latv *lùgt* 'ask', OCS *lъžǫ* 'lie'. A word of the northwest of the IE world.

See also DECEIVE. [D.Q.A.]

LIFE

h$_a$óius (gen. ***h$_a$ióus***) 'vital force, life, age of vigor'. [*IEW* 17 (**aiu̯-*); Wat 1 (**aiw-*); GI 702 (**ayu-*); BK 446 (**ħay-aw-/*ħəy-aw-*)]. OIr *āes* 'life, age', Lat *aevus* 'lifespan', ON *ævi* 'life, age', *æ* (< **h$_a$oiu̯o-*) 'always', OE *ǣ(w)* 'law, marriage', *ā* 'always', OHG *ēwa* 'eternity, law', *ēwīn* 'eternity', *io* 'always', Goth *aiws* 'time, eternity', Grk *αἰών* 'vitality, lifespan', Av *āyū* (gen. *yaoš*) 'lifespan', OInd *áyu-* ~ *áyuṣ-* 'life, lifespan'. To the original meaning 'vital power, life' is the connotation of duration which can be seen in Grk *δολιχαίων* 'having a long life', Av *darəg-āyu-* 'long-lasting', OInd *dīrgh-áyu-* 'long-lasting'. Widespread and old in IE. The root **h$_a$iu-*, in the zero grade, with the same *n*-enlargement as in OInd (instr.) *āyuni* and (loc.) *āyunā* 'life' is found in PIE **h$_a$iuu̯en-* 'youth': Lat *iuvenis* 'youth', OHG *jugund* 'youth', Indo-Iranian **h$_a$iuu̯en-* 'youth', etc., or with the "possessive" suffix **-h$_1$en-*, **h$_a$iu-h$_1$en-* The association with law and religious issues in Germanic seems to be a late semantic development.

See also STRENGTH; YOUNG. [E.C.P., D.Q.A.]

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LIFT

telh$_2$- 'lift, raise' (***tl̥néh$_2$ti***). [*IEW* 1060–1061 (**tel-*); Wat 69 (**telə-*); GI 152 (**t^{h}el-*); Buck 10.22; BK 98 (**t[^{h}]al^y-/*t[^{h}]əl^y-*)]. MIr *tlenaid* 'takes away', Lat *tollō* (< **tl-no-*) 'lift', ON *þola* 'endure', OE *þolian* 'endure (> NE *thole*), OHG *dolēn* 'endure', Goth *þulan* 'endure', Grk (aor. inf.) *ταλάσσαι* 'bear, suffer, endure', Arm *t'ołuw* 'let, permit', OInd *tulā́-* 'scales', TochAB *täl-* 'uphold, keep raised; raise, lift; acquire' (TochB present *talla-* < **tälnā-*). Distribution indicates PIE status. Note that Celtic, Latin and Tocharian all point to a nasal suffix in the stem, suggesting that the stem can be reconstructed as well.

kel(h$_1$)- 'lift, raise up'. [*IEW* 544 (**kel-*); Wat 28 (**kel-*); Buck 10.22; BK 305 (**k^y[^{h}]il^y-/*k^y[^{h}]el$_y$-*)]. Lat *ante-*, *ex-*, *prae-cellō* 'surpass' (< **kel-d-*), Lith *kélti*/*keliù* 'raise up', *kìlti*/*kylù* 'raise oneself up', Grk *κελέοντες* 'vertical beams in the upright loom', TochAB *käly-* (< **kl̥h$_x$-ie/o-*) 'stand, stand still; last' and nominal derivatives (with the meaning 'hill', etc.) in Celtic, Germanic, Slavic and Greek.

See also HILL; PUT; STAND. [M.N., D.Q.A.]

LIGHT[1]

lóuk(es)- 'light'. [*IEW* 687 (**louko-*); Wat 37 (**leuk-*); GI 40; Buck 1.61; BK 580 (**law-/*ləw-*)]. Lat *lūx* 'light', Arm *loys* (gen. *lusoy*) 'light' (Armenian from palatal variant **leuk̂-*), Av *raočah-* 'light', OInd *rocíṣ-* 'light', TochB *lyuke* 'light'. Widespread and old in IE. From the highly productive verbal root **leuk-* 'shine'.

?*bhéh$_2$(e)s- 'light'. [*IEW* 104–105 (**bhā-*); Buck 1.61; BK 20 (**bah-/bəh-*)]. Grk *φῶς* 'light, daylight', OInd *bhā́s-* 'light'. It seems natural to see in this Greek-Old Indic equation

an inherited s-stem derivative of *bheh$_2$- 'shine'. The Greek is usually taken to be from *bhh̥$_2$-u̯-es- but there is no trace of a *-u̯- in any of the dialects that normally preserve it. The correspondence could be the result of independent creations in both Greek and Old Indic but the unproductive morphological shape would favor common inheritance. Cf. Luv piha- 'splendor; might' (< *bhēh$_2$o-). From *bheh$_2$- 'shine'.

?*bhéh$_2$tis (gen. ***bhh̥$_2$téis**) 'light'. [IEW 104 (*bhā-); Wat 5 (*bhā-); BK 20 (*bah-/bəh-)]. Grk φάσις 'star rise', OInd bhā́ti- 'splendor, light, perception'. From *bheh$_2$- 'shine'. The Greek-Old Indic equation may be a mirage, as it is entirely possible that the two words are independent creations in the two stocks.

See also BRIGHT; COLOR; SHINE; WHITE. [D.Q.A.]

LIGHT[2]

***h$_1$le(n)g^{w}h-** 'light (of weight), light (on one's feet)'. [IEW 660–661 (*leg^{u}h-); Wat 35 (*leg^{w}h-); GI 685 (*leg^{ho}-); Buck 15.82]. OIr laigiu 'lighter, poorer', MWels llei 'less', Lat levis (< *h$_1$leg^{w}h-u̯-i-) 'light', ON lēttr 'light', OE lēoht 'light' (> NE light), OHG līht(i) 'light', Goth leihts 'light' (Gmc < *h$_1$le(n)g^{w}h-t(i̯)o-), OE lungre 'rapid', OHG lungar 'rapid', Lith leñgvas ~ lengvùs 'light, easy, slight', Latv liêgs 'light', OCS līgŭkŭ (< *h$_1$ln̥g^{w}h-u-ko-) 'light', Alb lehtë 'light, soft, slight, nimble', Grk ἐλαχύς (< *h$_1$ln̥g^{w}h-ú-) 'small, little', ἐλαφρός 'light, fast', Oss ræwæg (< *h$_1$ln̥g^{w}h-u̯-oko-) 'light', OInd raghú- ~ laghú- (< *h$_1$ln̥g^{w}h-ú-) 'fleet, fast', TochB lankutse (< *h$_1$ln̥g^{w}h-ti̯o-) 'light'. Cf. ON lungo 'lung', OE lungen 'lung' (> NE lung), OHG lunga 'lung', Arm lanjk' 'breast' (< *'lungs'), as the lightest internal organ, one that floats; cf. the dialectal NE lights 'lungs'. It may be that there were originally two roots here: *h$_1$leg^{w}h- 'light of weight' and *(h$_1$)lengh- 'swift' (cf. OIr lingid 'leaps', lēimm 'a leap', Wels llam 'leap' [Celtic < *ln̥gh-s-men-], Av rənjaiti 'speeds', OInd lánghati 'leaps', rám̥hate 'hastens') but it seems likely that, if so, the semantic and phonological similarity had caused the two to be confused even in PIE times. In any case, widespread and old in IE.

See also FAST; HEAVY. [D.Q.A.]

LIGHTNING

***meldh-** 'lightning'. [IEW 72 (*meldh-); Buck 1.57]. Wels mellt (< *meldhneh$_a$-?) (pl.) 'lightning', ON Mjǫllnir (< *meldunia-) (Þórr's hammer), OPrus mealde (< Proto-Baltic *meldiā) 'lightning', Latv milna (< Proto-Baltic *mildna) (hammer of the Thunderer), OCS mlŭnii 'lightning', Rus mólnija (< *mĭldnĭji < *ml̥dh-ni-) 'lightning'. A northwest dialectal term in late IE.

See also OAK; THUNDER. [R.S.P.B.]

LIMB

***h$_2$épes-** 'limb, part of the body'. [cf. IEW 50–51 (*ap-)]. Hit happessar 'limb, joint, part of the body', Oss æfcæg 'projecting part of body, neck', OInd ápsas- 'protruding body part, breast, forehead, tusk', TochA āpsā (pl.) 'limbs'. From *h$_2$ep- 'fit, fasten (oneself to)'. Though rather a banal derivative, *h$_2$épes- would appear to be old in IE with this meaning.

***méles-** 'limb'. [IEW 720 (*mel-); Wat 40 (*mel-)]. Bret mell (< melseh$_a$-) 'knuckle', Grk μέλος 'limb'. Whether Lith mélmenys 'flesh surrounding the kidneys', melmuõ 'small of the back, backbone', Latv mèlmeņi 'region of hips, sides, groin', OInd mármam- 'vital spot, joint, organ' belong here or not is unclear. In any case the agreement of Celtic and Greek would appear to guarantee at least late PIE status for this word.

See also ANATOMY; ARM; JOINT; LEG. [D.Q.A.]

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LINDEN

***lenteh$_a$-** 'linden (Tilia spp.)'. [IEW 677 (*lentā-); Wat 36 (*lento-); Fried 90–92]. ON lind 'linden', OE lind 'linden' (> NE lime with dissimilation), OHG linta 'linden', Lith lentà '(linden) board', Rus lút '(linden)bast', lutťjë 'young linden ready to be stripped', Alb lëndë 'wood, material', lende (< *lentii̯eh$_a$-) 'oak', lis (< *lent^{s}to-) 'oak'. To this might be added Lat lentus 'pliant, sticky'. A word of the west and center of the IE world.

?*leipeh$_a$- 'linden (Tilia spp.)'. [Fried 90–92]. Lith líepa 'linden', Latv liẽpa 'linden' (< Proto-Baltic *lēipā), Ukr lýpa 'linden' (< Slav *lípa). To the Baltic and Slavic set has sometimes been compared MWels llwyf(en) 'elm; linden', and Celtic place names in Līmo-, etc. (< Celt *leimo-) although this is more likely from *h$_1$élem 'elm' because of the similarity between the two trees. Also dubious are attempts to relate Grk (Hesychius) ἀλίφαλος 'a kind of oak' (if < *'linden'). The word may derive from *lip- 'to stick to, to slip, smear' with a shift to the tree name because of its special properties.

There is a sharp contrast between botany and linguistics. The tree was present in many forms and used in many ways such that the early Indo-Europeans (excepting the Irish whose land lacked the linden) must have had a word for it. Yet the philological evidence, while rich and suggestive in some stocks, leaves us with several only potentially related cognate sets, each of which splay out into possible etymological relations with disparate but logically associated concepts and symbols. That the linden or lime (American basswood) was important in the religious ritual of early Indo-Europeans is suggested not only by the Germanic evidence but also by the Finno-Ugric cultures of European Russia where bast bridles were used for sacrificial horses, linden bark and branches dripped with the blood of sacrificial animals, and there existed linden groves and linden sacrifice trees. These functions and the easily worked wood, the useful fibrous bark, and the medicinal blossoms have to be combined with the fact that the genus Tilia in three species, roughly northern, central and southern, was spread across Europe from east to west

during the Atlantic period: the linden was an essential part of the early IE world.

See also SOFT; TREES. [P.F.]

LINE

***ser-** 'line up'. [*IEW* 911 (**ser-*); Wat 58 (**ser-*); BK 170 (**s^{y}ir-/*s^{y}er-*)]. OIr *sernaid* 'arranges', *sreth* (< **sr̥tā-*) 'row', Lat *serō* 'line up, join, link', *sors* (< **sr̥-ti-*) 'lot', Lith *sėris* 'thread', Grk *εἴρω* (< **seri̯ō* with loss of initial aspiration) 'line up', Hit *sarra-* 'break', OInd *sarat-* 'thread'. Distribution suggests PIE status.

***reik-** 'scratch; line'. [*IEW* 858 (**reik(h)-*); Wat 54 (**rei-*); Buck 12.84]. Wels *rhwyg* 'break', OE *rāw* ~ *rǣw* (< **roik-u̯ó-*) 'row, line' (> NE *row*), MHG *rīhe* 'line', Lith *riekė̃* 'slice (of bread)', ?Grk *ἐρείκω* 'bend, bruise', OInd *rekhā́* ~ *lekhā́* 'line'. From **rei-k-*, extended form of **rei-* 'to scratch, cut'. This extension has only a limited distribution suggesting late IE status.

***u̯órghs** (gen. ***u̯r̥ghós**) 'chain, row, series'. [VW 545]. Alb *varg* 'chain; row, string, strand; series', Grk *ὄρχος* 'row of vines', TochB *warke* 'chain, garland'. At least a word of the center and east of the IE world.

See also BORDER; RIGHT; TEAR^2. [A.D.V., D.Q.A.]

LINEAGE

***s(u̯)ebh-** 'lineage'. [IEW 883 (**s(u̯)e-bh(o)-*); Wat 67 (**s(w)e-*); Szem 6.13.5]. From **sebh-* we have OE *sibb* (> NE *sib*) 'relationship; kin', OHG *sipp(e)a* 'group', Goth *sibja* 'group', Thrac *Ζαβάζιος* (epithet of Dionȳsus, cf. Grk *Ἐλευθέριος* and Lat *Līber*), OInd *sabhā́* 'assembly'. From **su̯ebh-* we have OCS *svobodĭ* 'free' and perhaps OLat *suodālis* 'associate', Lat *sodālis* 'associate' (if not from **su̯edho-* below), and to these may be added tribal names as the German tribe of the *Suābi* (OHG *Swābā*) 'Swabians' and *Semnones* (< **Seb(a)names*) 'Semnones'. Distribution suggests that this word is of at least PIE antiquity.

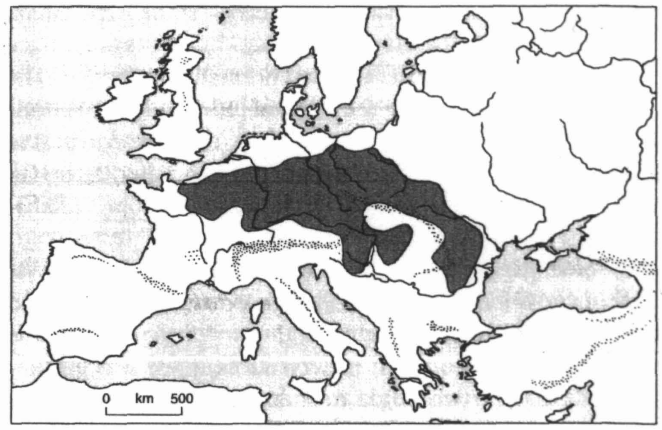
***su̯edh-o-** 'lineage'. [*IEW* 883–884 (**su̯ēdh-*); Wat 67 (**s(w)e-*)]. OLat *suodālis* 'associate', Lat *sodālis* 'associate' (if not from **su̯ebh-* above), Grk *ἔθος* (Laconian *βεσό-*, i.e., Proto-Grk **hϝέθος*) 'custom, habit', possibly OInd *svadhā́* 'homestead, kindred group'. If these words do go with one another, the distribution would suggests PIE status.

Alternate terms for the lineage such as **sebh-*, from which NE *sib* derives, and **su̯edh-* emphasize the commonality of residence as a feature of shared kinship. It appears that Proto-Indo-European family-life was centered around a "great family" of two or three generations occupying neighboring but separate residences which formed the **u̯ik̑-* or homestead, the physical representation of the extended household, **u̯óik̑os*.

See also FAMILY; KINSHIP. [M.E.H.]

LINEAR WARE CULTURE

The Linear Ware (German *Linearbandkeramik*) culture is the major Neolithic culture of temperate Europe which



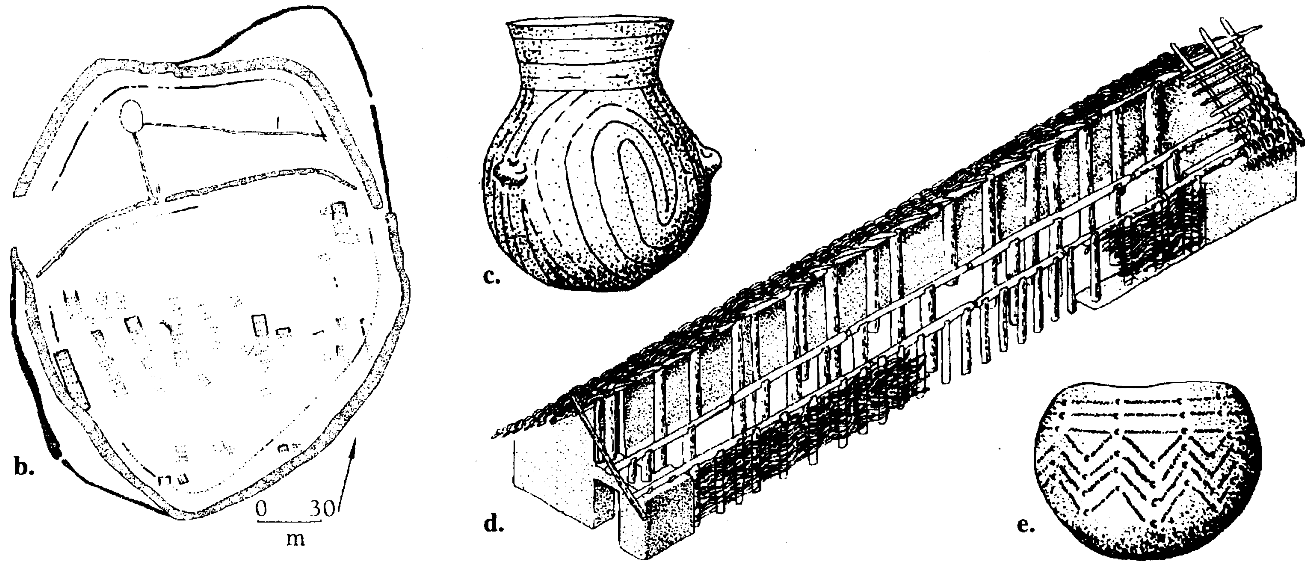
Linear Ware a. Distribution of the Linear Ware culture.

spanned the region from the Netherlands, Belgium and northern France on the west to Romania and the Ukraine on the east. The culture flourished during the period *c* 5500–4500 BC, the terminal period seeing the emergence of various regional derivatives (e.g., Rössen in the west and Lengyel in the east). Settlements are typically distributed over loess soils and consist of small villages that spread horizontally over large areas through time. The Linear Ware sites mark the earliest intrusion of farmers into much of temperate Europe.

Both open sites and ditch-enclosed sites are known. The individual villages consisted of perhaps five to ten houses at any time. Settlements frequently include long houses measuring about 6 m wide but 20 to 45 m in length, divided into what would appear to be functionally different rooms (living, storage).

The economic system was based on mixed agriculture and stockbreeding. Among the arable component the following plants are recovered: wheat (*Triticum monococcum*, *T. dicoccon*, *T. aestivum*, *T. spelta*), barley (*Hordeum vulgare*), millet (*Panicum miliaceum*), and small amounts of both rye (*Secale cereale*) and oats (*Avena sativa*); other cultigens include peas (*Pisum sativum*), grass pea (*Lathyrus sativus*), lentils (*Lens culinaris*), flax (*Linum usitatissimum*). Poppy (*Papaver setigerum*) is conspicuous in the western regions but generally absent from the eastern part of this culture's distribution. Occasionally, hemp (*cannabis*), cherries (*Prunus*) and Cornelian cherry (*Cornus mas*) are recovered. Most samples indicate that the main crop was wheat while barley tends to be attested in smaller amounts or in somewhat later phases. Among the domestic livestock cattle predominates while the second position may be filled (in terms of number of individuals) by either ovicaprids (sheep/goat) or pigs. The domestic dog is generally present in small numbers. There is a considerable range of wild animals, the most prominent numerically being red deer, roe, aurochs, wild pig, wild horse. Other species include beaver, bear, badger, wolf, fox, hare, and hamster.

The culture takes its name from its ceramics, which are



Linear Ware b. Enclosed settlement at Köln-Lindenthal, Germany; c. LBK pot; d. Long-house from Bylany, Czech Republic (30 x 6 m); e. Music-note decorated LBK pot.

decorated with linear geometric or curvilinear designs. Cemeteries are found close to villages with burial in the flexed position accompanied by pottery, tools and ornaments as grave goods. Analysis of the physical type of the deceased indicates that the population of the Linear Ware culture belonged to the gracile "Mediterranean" type.

The Linear Ware culture has always played a critical role in the discussion of a possible IE homeland in Europe. Its appearance over a vast area suggested that it was initially spread by a highly mobile population, expanding by slash and burn agriculture, where forests were cleared by fire, and soil exhaustion continually drove farming communities to open new lands (an economic model now widely rejected). There was also little evidence for the incorporation of local Mesolithic communities whom these earliest farmers putatively replaced. The culture occupied the same territory which, by the Bronze and Iron Ages, would have incorporated many of the local territories of various IE-speaking stocks. Its very virtues, however, were turned against it since its marked cultural uniformity over a broad region was seen to be confined to that very area hence it could not be employed to explain movements into the Mediterranean and the steppe regions of eastern Europe much less Anatolia, Iran and India. Moreover, it was seen as a typically peaceful farming society incapable of subjugating foreign lands (death by violent acts has now been recorded among Linear Ware burials). The realization that Linear Ware settlements were also enclosed by ditches helped mitigate the later problem and a Linear Ware solution was favored in monographs on the IE homeland by G. Devoto and P. Bosch-Gimpera.

Currently, the most vigorous case for a Linear Ware association with at least a major segment of the Proto-Indo-Europeans is being made by János Makkay who has detailed the reasons for assigning it to PIE speakers: 1) agricultural economy; 2) similarity over wide region attesting close linguistic and ethnic ties; 3) marked difference between itself and its neighbors; 4) continental rather than coastal nature of PIE society; 5) temperate rather than Mediterranean environment of PIE society; 6) proximity to Uralic languages; 7) distribution coincides with early IE agriculturalists in contrast to those tribes east of the Linear Ware culture who should be seen as Indo-Iranian pastoralists; 8) area includes the Old European hydronymic (river name) system; 9) area of distribution is outside those areas easily excluded as non-IE, e.g., Iberia, Mediterranean coast, but close to same areas which would require colonization by IE groups; 10) area is only possible staging area for later migrations into Italy; 11) most likely staging area for absorption of non-IE substrates in western Europe; 12) only probable staging area for spread of IE languages to northern Europe; 13) cultural similarity and proximity with Balkan and perhaps Anatolian Neolithic cultures which should have proved ancestral to other IE groups.

See also INDO-EUROPEAN HOMELAND; LENGYEL CULTURE. [J.P.M.]

Further Readings

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Devoto, G. (1962) *Origini Indeuropee*. Florence, Sansoni.

Makkay, J. (1987) The Linear Pottery and the early Indo-Europeans, in, *Proto-Indo-European: The Archaeology of a Linguistic Problem*, ed. S. Nacev Skomal and E. Polomé, Washington, Institute for the Study of Man, 165–184.

LION

?*li(u̯)- 'lion (*Panthera leo*)'. [Cf. GI 427–428 (**leu-*)]. OCS *lĭvŭ* 'lion', Rus *lev* 'lion', cf. Grk *λίς* 'lion'. If the Slavic reflects **li-u̯o-*, then Greek would reflect a root noun **li-*. If Slavic is **liu̯-o-*, then Greek would be **liu̯-i-* (cf. *τίγρις* 'tiger' and *πάρδαλις* 'leopard'). (From OCS *lĭvŭ*, via an unattested Goth intermediary, comes OHG *lēwo* 'lion'; from Rus *lev* comes Lith *lēvas* 'lion'). Traditionally the Greek word is taken to be a borrowing from Hebrew *layiš* 'lion'. While this is possible there is no clear motivation for such a borrowing as lions lived in Greece and were also to be found in both the Balkans and Anatolia, the two areas commonly ascribed to the pre-Greeks before their arrival in their historical seats.

The cave lion (*Felix leo spelaea*) ranged rather widely from Italy and north of the Alps eastwards across Asia during the Pleistocene but had become extinct in many areas by early historic times. It was, however, known from the Neolithic period through the Iron Age in the Balkans (Herodotus speaks of lions in Thrace) and western Ukraine, and native lions are also known from Bronze Age deposits in Greece. The distribution of the lion also extended through western Asia (it was formerly known in both Iraq and Iran) and into India (Gujurāt) although there lions may have ultimately derived from Africa. It does not seem accidental then that the two IE groups longest in continuous contact with lions (Slavs and Greeks) should have a similar word for them. The figurative associations of OInd *siṃhá-* 'lion' involves kingship as is also the case from various Near Eastern and by derivation European traditions.

See also **Animal**; **Leopard**; **Mammals**. [D.Q.A., J.P.M.]

LIP

****gheluneh$_a$-*** 'lip'. [*IEW* 436 (**ghelunā*); Wat 22 (**ghelunā*); Buck 4.25]. ON *gjǫlnar* (pl.) 'jaws', Grk *χελῡ́νη* 'lip' (*χεῖλος* [Aeolic *χέλλος*] 'lip' may be from an apocopated **ghél(u)nos*; otherwise from **ghel-s-o-*), Arm *jełun* 'palate'. Though not widely attested, the oldest reconstructible word for 'lip' in PIE.

****leb-*** 'lip'. [*IEW* 655–656 (**lĕb-*); Wat 35 (**leb-*); Buck 4.59]. Lat *labium* 'lip', *labrum* 'lip', OE *lippa* 'lip', OHG *leffur* 'lip'. Cf. Hit *lipp-* 'lick'. As 'lip' a "westernism" in late PIE.

See also **Anatomy**; **Kiss**; **Lick**; **Mouth**. [D.Q.A.]

LITTER

?*bhertlom 'litter'. [*IEW* 128–129 (**bher-*); BK 6 (**bar-/*bər-*)]. Lat *ferculum* 'litter, frame', Grk *φέρετρον* 'bier, litter', OInd *bharítra-* 'arm'. Both the verbal root **bher-* 'to carry', i.e., 'that by which something is carried' and the suffix are widespread and may have been independent formations. Moreover, the Old Indic meaning seems very distant to be cognate. The form of both Greek (with *-e-*) and Old Indic (with *-i-*) suggest later creations, as if from PIE **-h$_x$trom-* where the **-h$_x$-* has been misdivided from verbal roots originally ending in a laryngeal.

See also **Bed**; **Carry**. [A.D.V.]

LIVE

****g^{w}eih$_3$-*** 'live'. [*IEW* 469 (**g^{u}ei̯-*); Wat 24 (**g^{w}ei-*); GI 387 (**k$^{'o}$ īw-*); Buck 4.74]. Present **g^{w}ih$_3$-u̯e/o-*: Lat *vīvō* 'live', OPrus *gīwa* 'live', Lith *gyjù* 'become healthy', Latv *dziju* 'become healthy', OCS *živǫ* 'live', Av *ǰvaiti* 'lives', OInd *jī́vati* 'lives'; present **g^{w}i̯eh$_3$-u̯e/o-*: Grk *ζώω* 'live', TochA *śo-* 'live', TochB *śāw-* 'live'. Cf. also the widespread derivative **g^{w}ih$_3$-u̯os* 'living': OIr *bēo* 'alive', Wels *byw* 'alive', Lat *vīvus* 'alive', Goth *qius* 'living', Lith *gývas* 'living', Latv *dzîvs* 'living, fresh, healthy', OCS *živŭ* 'living', Grk *βίος* 'life', Av *ǰva-* 'alive', OInd *jīvá-* 'living'. (Related in some way are ON *kvikr*, OE *cwic* [> NE *quick* as in 'the quick and the dead'], OHG *quek*, also 'living'). Nearly universal in the IE languages (though lacking in Hittite) and clearly of PIE antiquity. The term apparently referred to all classes of living things, both plants and animals.

[D.Q.A.]

LIVER

****i̯ék^{w}r̥(t)*** 'liver'. [*IEW* 504 (**i̯ĕk^{u}-r̥(t-)*); Wat 79 (**yēk^{w}r̥*); GI 715 (**yek^{ho}r/n-t^{h}-*); Buck 4.45]. Lat *iecur* (gen. *iecoris* ~ *iocineris*) 'liver', OPrus *iagno* 'liver', Lith *(j)ēknos* (pl.) ~ *(j)ãknos* (pl.) 'liver', Latv *aknas* 'liver', Grk *ἧπαρ* 'liver', Av *yākarə* 'liver', NPers *ǰigar* 'liver', OInd *yákr̥t* (gen. *yaknás*) 'liver'. Presumably the most likely candidate for the PIE word for 'liver', but see below.

?*lesi- 'liver'. [GI 715]. Arm *leard* (**lesi-* with the ending of the competing **i̯ék^{w}r̥t*) 'liver', Hit *lissi-* 'liver'. Either this word represents a very old word for 'liver', replaced almost everywhere by **i̯ék^{w}r̥t*, or, more likely, an Anatolian innovation that, like a number of Anatolian words, was borrowed by Armenian.

See also **Anatomy**. [D.Q.A.]

LOINS

****isĝhis-*** 'loins'. Grk *ἰσχίον* 'hip', Hit *iskis(a)-* 'loins'. Cf. also metathesized **ik̂s-* 'loins, groin': Lat *īlia* (pl.) (< **ik̂slii̯o-*) 'abdomen below the ribs, groin, flanks', Grk *ἰξύς* 'loins, groin'. Though rather spottily attested, surely the PIE word for 'loins'.

****lóndhu*** (gen. ****l̥ndhu̯ós***) 'loins'. [*IEW* 675 (**lendh-*); Wat 36 (**lendh-*)]. Lat *lumbus* (< **londhu̯os*) 'loin', OE *lendenu* (pl.) 'loins', OHG *lentī* 'kidneys', OCS *lędvĭję* 'loin', Rus *ljádveja* 'loin, hip' (Gmc and Slavic < **londhu̯i̯ā*), OInd *rándhram* (by assimilation < **rándhvam*) '± loins'. Also related are ON *lund* 'loins, kidney-fat' (pl. 'flesh under the backbone'), OE *lynd* 'fat', *lundlaga* 'kidneys', *gelyndu* 'loins', OHG *lunda* 'fat, tallow'. With the Old Indic cognate, clearly of PIE status.

See also **Anatomy**; **Haunch**. [D.Q.A.]

Further Reading

Gotō, T. (1985) Altindisch *rándhra-* und uridg. **lendh-*. *MSS* 44, 77–91.

LONG

****duh$_a$ros*** ~ ****du̯eh$_a$ros*** 'long (of time, space)'. [*IEW* 219–

220 (**dū-ro-s*); Buck 12.44; BK 139 (**t'aw-/*t'əw-*)]. Lat *dūrāre* 'to last', Grk *δηρός, δηρόν* 'long, too long', Arm *erkar* 'long (in time)', Av *dūire* 'far', OInd *dū-rá-* 'far, distant'. Hit *tūwa-* 'far, distant' has been placed here, reflecting a different formation in *-i̯o-*, i.e., **duh$_a$i̯o-*, rather than *-ro*; OIr *cundrad* 'commerce, act of buying and selling, contract' has been placed here but is very unlikely. A zero-grade is found in Latin and Indo-Iranian while Greek and Armenian point to **du̯eh$_a$-*. Still, wide distribution supports PIE status.

***dl̥h$_1$ghós** 'long'. [*IEW* 197 (**delēgh-*) ; Wat 11 (**del-*); GI 685 (**t'elH(n)g^{h}o-*); Buck 12.57; BK 123 (**t'al-/*t'əl-*)]. Lat *in-dulgeō* 'am long-suffering, indulgent', OE *tulge* 'rather', Goth *tulgus* 'firm, steady', OPrus *ilga* 'long', Lith *ilgas* 'long', Latv *il̃gs* 'long' (the initial **d-* lost in Baltic in combination with the immediately following **-l̥-*), OCS *dlŭgŭ* 'long', Rus *dólgyj* 'long', Alb *gjatë* (< **dl̥h$_1$ghto-*) 'long', Grk *δολιχός* 'long', *ἐνδελεχής* 'long-lasting, uninterrupted', Hit *daluki-* 'long', *dalugasti* 'length', Av *darəga-* 'long', *drāja-* 'length', OInd *dīrghá-* 'long', *drāgháyati* 'lengthens'. Cf. the derivative **dl̥h$_1$ghoteh$_a$-* in OCS *dlŭgota* 'length', OInd *dīrghatā* 'length'. Widespread and old in IE.

***dlonghos** 'long'. [*IEW* 197 (**(d)longho-s*); Wat 11 (**del-*); GI 685 (**t'elH(n)g^{h}o-*); Buck 12.57; BK 123 (**t'al-/*t'əl-*)]. Lat *longus* 'long', ON *langr* 'long', OE *lang* 'long' (> NE *long*), OHG *lang* 'long', Goth *laggs* 'long', MPers *drang* 'long'. Related in some way to the previous entry. Not as widespread but clearly old in IE.

***meh$_a$k̂-** 'long, especially thin', slender'. [*IEW* 699 (**māk̂- ~ *mək̂-*); Wat 38 (**māk-*); GI 179 (**mHk̂^{h}-ro-*); Buck 12.57]. Lat *macer* 'thin', ON *magr* 'thin', OE *mæg(e)r* 'thin', OHG *magar* 'thin', Grk *μακρός* 'long, thin', *μῆκος* 'length', Hit *maklant-* (< **mak-ro-*, with *-ro-* > *-lo-*?) 'meager', Av *mas-* 'long', *masah-* 'length'. OIr *mēr* 'finger' has been suggested but is unlikely. The close correspondence in form and meaning has led some to propose that the Germanic forms were loaned from Latin but that, while possible, remains speculative. The semantic development would appear to be: 'long' > 'thin, meager'. While much of this etymology is shaky, enough remains to suggest probable IE status.

***sēros (*seh$_1$ros) ~ *sētos (*seh$_1$tos)** 'long'. [*IEW* 891 (**sē-ro- ~ *sē-to-*); Wat 56 (**sē-ro-*); Buck 12.57]. OIr *sīr* 'long lasting', MIr *sīth-* 'long', Wels *hir* 'long, tall, lengthy', Lat *sērus* 'late', *sētius* 'less, worse', ON *sīð* 'late', OE *sīd* 'long, wide', OHG *sīd* 'late', Goth *seiþus* 'late'. The inclusion of OInd *sāyám* 'evening' here is uncertain. It is best to regard this as a northwestern development of late PIE **seh$_1$(i)-* 'throw, neglect' with both *-r-* and *-t-* forms.

See also LEAVE; NARROW; THIN. [J.C.S., D.Q.A.]

LOOSE *see* RELEASE

LORD *see* MASTER

LOUSE

***lu- (*lus-)** 'louse'. [*IEW* 692 (**lūs*); Wat 37 (**lūs-*); GI 453 (**lūs-*)]. Wels *llau* (< **luu̯ā-*) 'louse', ON *lūs* 'louse', OE *lūs* 'louse' (> NE *louse*), OHG *lūs* 'louse' (Gmc < **lūss ~ lūs*, the old nominative singular), Lith *víevesa* 'goose or cattle louse', *utė̃ ~ liū̃lė* 'louse', Latv *uts ~ ute ~ utele* 'louse', OCS *vŭšĭ* 'louse', Rus *voš'* 'louse', OInd *yūkā* 'louse'. Even more than in the case for 'ant', this word for 'louse' has been reshaped phonologically because of its heavily affective meaning.

***k̂(o)nid-** 'nit, louse egg'. [*IEW* 608 (**knid-/*k̂nid-*); Wat 32 (**knid-*); GI 453 (**g^{h}nit'-*)]. OIr *sned* 'nit', Wels *nedd* 'nit' (Celtic < **sk̂nideh$_a$-*?), ON *gnit* 'nit; louse eggs', OE *hnitu* 'nit' (> NE *nit*), OHG *(h)niz* 'nit' (Gmc < **k̂nideh$_a$-*), Lith *glìnda* 'nit', Latv *gnīda* 'nit', Rus *gnída* 'nit', Alb *thërije* (< **k̂onid-*) 'nit', Grk *κονίς* (gen. *κονίδος*) 'nit, eggs of fleas and bugs', Arm *anic* 'louse' (by dissimilatory loss < **sanic* < **k̂onid-s*). From a preform something like Lith *glìnda* probably comes Lat *lēns* (gen. *lendis*) 'nit'. Though its exact PIE shape is difficult to reconstruct because its various descendants have undergone phonological deformation of one sort or another, this word seems clearly to have been originally pan-IE. Its exact semantic relationship to the next threesome of words is hard to reconstruct as well.

***rik-** 'nit, tick'. [*IEW* 335 (**erek-*)]. Lat *ricinus* 'tick, sheep louse', NPers *rišk* 'nit', Oss *liskæ* 'nit' (Iranian < **riška-* metathesized from **rikša-*), OInd *likṣā́* 'nit'.

***h$_x$orghi-** 'nit'. [*IEW* 335 (**erek-*)]. Alb *ergjëz* 'nit', Arm *orǰil* 'louse, nit'.

***h$_x$orki-** 'tick'. [*IEW* 335 (**erek-*)]. Lith *érkė ~ árkė* 'tick', Latv *ērce* 'tick', Arm *ork'iwn* 'ringworm, tetter, scabies, mange'. By its distribution on the eastern and western fringes of the IE world **rik-* would appear to be old in PIE. Both **h$_x$orghi-* and **h$_x$orki-* appear to have been words of the center of the IE world and the latter to have been the result of "crossing" **h$_x$orghi-* with **rik-*.

***diĝ(h)-** 'tick'. [*IEW* 187–188 (**deiĝh-*); Wat 10 (**deigh-*)]. MIr *dega* 'stag-beetle', OE *ticia* 'tick', MHG *zëche ~ zëcke* 'tick', Arm *tiz* 'tick'. Germanic implies a final **-ĝ-* while Armenian implies **-ĝh-*; Irish is ambiguous. Though the exact shape of the word is not recoverable, it is clearly one that was current at least in the west and center of the IE world.

See also INSECTS. [D.Q.A.]

LOVE

***keh$_a$-** 'love'. [*IEW* 515 (**kā-*); Wat 26 (**kā-*)]. The underlying verb is attested only in Indo-Iranian: Av *kā-* 'long for', *kāma-* 'desire, wish', OInd *kā́yamāna-* 'liking', *kā́ma-* 'desire, wish, love'. From a verbal noun **kéh$_a$r̥* (gen. **kh̥$_a$rós*) we find the widespread derivatives: OIr *caraid* 'loves', *cara* 'friend', Wels *caraf* 'love', *câr* 'friend', Lat *cārus* 'dear', ON *hórr* 'adulterer', OE *hōr* 'adulterer', *hōre* 'whore' (> NE *whore*), OHG *huor* 'adulterer', *huora* 'whore', Latv *kārs* 'greedy'.

***kem-** 'love'. [*IEW* 515 (**kā-*)]. Lith (pl.) *kamaros* 'lasciviousness', Latv *kāmêt* 'hunger', OInd *kāmáyati* 'desires, longs for, is in love with, copulates with', *kamra-* 'charming, beautiful', *kamana-* 'greedy', TochB *kāñm-* (< **kōm-ne/o-*) 'play'.

***ken-** 'love'. [*IEW* 515 (*kā-)]. MIr *cin* (< *kenu-) 'love, tendency', Av *čakana* 'be pleased', *čanah-* 'demand, request', OInd *cākana* 'is pleased', *cánas-* 'pleasure'. These three (*keh$_a$-, *kem-, *ken-) represent different enlargements of the same theme (cf. *g^{w}eh$_a$- and *g^{w}em- 'come'). Widespread and old in IE.

***prih$_x$-eh$_a$-** 'love'. [*IEW* 844 (*prāi-); Wat 53 (*prī-); BK 622 (*p[^{h}]ar-/*p[^{h}]ər-)]. ON *frjā* 'love', *frændi* 'relative, friend', OE *frīgan* 'love', *frēond* 'friend' (> NE *friend*), OHG *friunt* 'friend', Goth *frijōn* 'love', *frijōnds* 'friend', OCS *prija-jǫ* 'am favorable', OInd *priyāyáte* 'befriends'. In Indo-Iranian we also have *prih$_x$-neh$_a$- in Av *frīnāiti* 'loves, praises', OInd *prīṇā́ti* 'pleases' (cf. *prīyate* 'is pleased'). Attested in the west, center and east of the IE world, this word is surely of PIE date.

Originally a denominative verb from *prih$_x$ós 'of one's own', thus 'dear' (ON *frī* 'beloved, spouse', OE *frēo* 'woman', *frēod* 'love', Av *frya-* 'dear', OInd *priyá-* 'dear', *priyā́* 'spouse', *priyátā* 'desire'). To this may be added the names of a Germanic goddess (ON *Frigg*, OE *Frīg*, OHG *Frija*) or 'free' (Wels *rhydd*, OE *frēo* (> NE *free*), OHG *frī*, Goth *freis*). In turn, *prih$_x$ós 'of one's own' may be a derivative of *pēr 'house', thus 'of one's own household', which is attested in Hit *pēr* 'house' if this is not a non-IE loan.

***leubh-** 'love, desire'. [*IEW* 683–684 (*leubh-); Wat 37 (*leubh-); Buck 16.27; BK 585 (*law-/*ləw-)]. Lat *lubet* ~ *libet* 'pleases', *lubīdō* ~ *libīdō* 'desire, pleasure', OE (noun) *lufu* 'love' (> NE *love*), *lufian* 'love' (> NE *to love*), OHG (noun) *liubī* 'love', *liubōn* 'love', Lith *liaupsẽ* 'glorification', *liáupsinti* 'praise', OCS (noun) *ljuby* 'love', (vb.) *ljubiti* 'love', Alb *laps* 'wish', Grk (Hesychius) *λυπτά* (< *lubhịéh$_a$-) 'courtesan', OInd *lúbhyati* 'desires ardently', *lobháyati* 'arouses desire'. Cf. the widespread derivative *leubhós 'dear': Runic *liubu* 'dear', ON *ljūfr* 'dear', OE *lēof* 'dear', OHG *liob* 'dear', Goth *liufs* 'beloved', OCS *ljubŭ* 'dear'. In OInd *lóbha-* 'desire', we have the same formation only with the retracted accent of a noun. Reasonably widespread, certainly old in IE.

***leh$_a$d-** 'dear'. Rus *ládyj* 'dear', *láda* 'wife', Lycian *lada-* 'wife' *laθθe/i-* (< *lada-he/i-) '(husband's) in-laws', TochA *lār* 'dear', TochB *läre* 'dear' (Toch < *leh$_a$d-ro-). The geographical distribution would seem to assure PIE status for this word.

See also Desire; Favor, Love Goddess. [D.Q.A.]

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LOVE GODDESS

There is no certain evidence for a PIE Love goddess, although the individual goddesses who fulfill this function may have transparent but unrelated IE names.

Aphroditē was the Greek goddess of love and beauty. Her origin is obscure with many arguing that her worship most likely originated in the Near East, as a form of Mesopotamian Ishtar, eastern Mediterranean Ashtarte. On the other hand, others have sought an IE etymology for the name of this goddess, e.g., 'foam-bright' with Grk *-δῖτη* < PIE *dhei- 'shine' or, most recently, *ἀφρο-* < PIE *abhor- 'very', i.e., < *'exceedingly-bright'. It is also suggested that she is a reflection of the IE goddess of the dawn. According to Hesiod (*Theogony* 190–197), she was born in the sea, out of the foam which arose from the severed genitals of Ouranos. Thus she is given the "popular etymology", the 'foam-born', *ἀφρο-δῖτη*. Hesiod writes that she floated to Cythera, and then to Cyprus; many later authors called her "Cypria". The story of her origin as the 'foam-born' is similar to that of the Indic Śrī Lakṣmī. The latter also had a son, Kāmadeva, 'love-god', whose function was similar to that of Aphroditē's son Erōs.

Roman Venus (= Greek Aphroditē) was a goddess of love and beauty. Although her name is related to Indo-European words, e.g., OHG *wini* 'friend', Hit *wenzi* '(s)he has sexual intercourse', Av *vanta-* 'won, desired', and OInd *vánas-* 'loveliness', this name was superimposed upon an indigenous Italic goddess, who later attracted the mythology of Greek Aphroditē. Although cognate *terms* abound, there are no other cognate goddess *names*. There were many forms of the goddess, including Venus Verticordia, the goddess who converted the minds of virgins and chaste matrons 'from pleasure to modesty' (Valerius Maximus, *Dictorum Factorumque* 8.15.12); and Venus Genetrix, the mother of all. According to Ovid, she created all of the gods, and she gave laws to heaven, earth and sea (*Fasti* 4.92 ff.). The duo Venus and Cupid (Aphroditē and Erōs) may be compared to the Indic Śrī Lakṣmī and her son Kāmadeva, 'love-god'.

Freyja, 'the lady', was a Germanic love goddess, similar to the Greek Aphroditē. Just as Aphroditē, she was identified with gold, as *Gullveig*. She taught the magic called *seiðr*. She was thought to enjoy love-poetry, and her assistance was invoked in love affairs. She was also a battlefield goddess, and to her fell half of the slain in battle (compare Baltic Laima). As battlefield goddess, she was the first, or proto-, Valkyrie. She was twin sister of Freyr. Freyja is cognate with the New High German term *frau* 'woman, lady'. Her chariot is drawn by two cats, descendants of the lions which flanked many Neolithic European female figures. Epithets of Freyja are *Gefn* 'the giver', and *Syr* 'sow'. She had a golden necklace, the necklace of the Brīsings, which was crafted by four dwarves, with each of whom she passed a night in payment for the necklace. She had a 'falcon coat', and she lent her 'feather form' to others. She thus received the bird imagery of the Neolithic European bird goddess. Her functions and attributes are similar to those of the Near Eastern Ishtar. Recently, she has been compared with both the Slavic deity *Proue* who was worshipped by the twelfth century Polabians and the Mycenaean *Pe-re-wa$_2$*, Grk (Pamphylian) *Πρειια*, all of which may derive from *preuịeh$_a$-.

See also Fortune; Love. [M.R.D.]

Further Readings

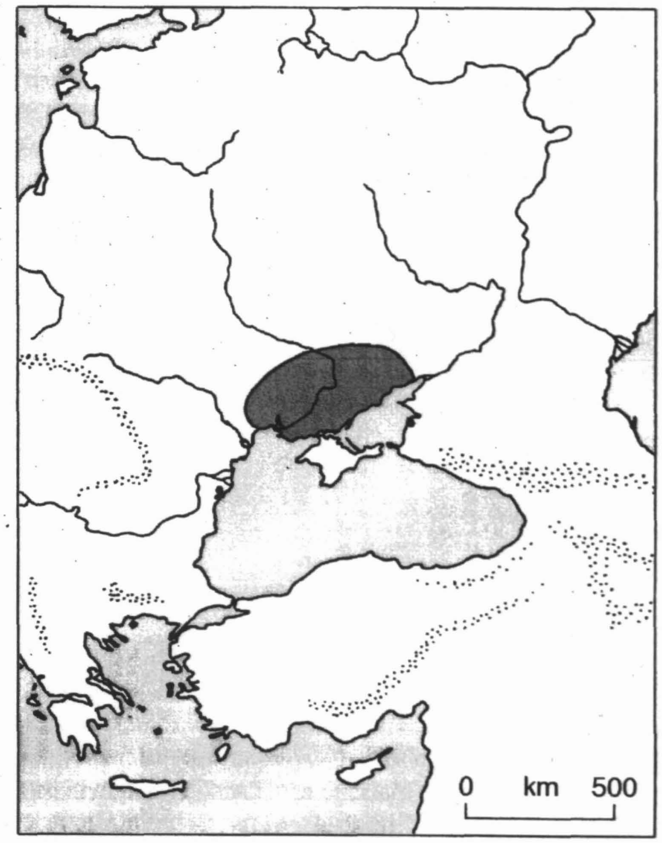
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LOWER MIKHAYLOVKA GROUP

Constituent element of the so-called Kurgan tradition that occupied the steppe region of the lower Dnieper to the north Don during the Copper Age, *c* 3600–3000 BC. It takes its name from the lower level of the fortified site of Mikhaylovka (otherwise known as Mikhaylovka I) whose upper deposits are ascribed to the Yamna culture. It is known from both settlements and some tens of burials. The faunal remains include sheep/goat, cattle, horse and pig; querns attest agriculture. Burials are typically under low tumuli (kurgans) and small ceremonial enclosures and anthropomorphic stone stelae are also known. It is closely related to the Kemi Oba culture and possibly also the Maykop culture.

See also Kemi Oba Culture; Kurgan Tradition; Maykop Culture. [J.P.M.]



Lower Mikhaylovka a. Area of the Lower Mikhaylovka culture.

LUNG

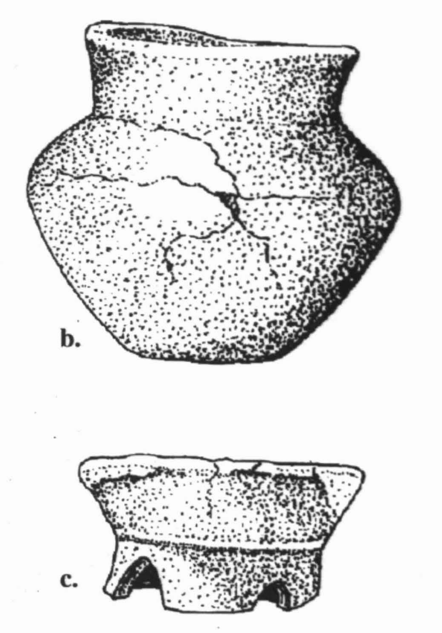
pléumōn (gen. ***plumnós***) 'lung'. [*IEW* 837–838 (**pl(e)u-mon-*); Wat 52 (**pl(e)u-mon-*); GI 715 ($*p^hl(e)u-mon-$)]. Lat *pulmō* 'lung', Grk *πλεύμων* 'lung', OInd *klóman-* (< **plóman-*) 'right lung'. A derivative of **pleu-* 'float'; the lung was the 'floater' because it would not sink in water. Despite its transparent morphology, its wide (if sparse) distribution makes it a reasonably good candidate for (late) PIE status. Another derivative is to be seen in Balto-Slavic $*plou\text{-}t\underset{\frown}{i}\text{-}o/eh_a$: OPrus *plauti* 'lungs', Lith *plaũčiai* (pl.) 'lungs', Latv *plàušas* 'lung', OCS *plušta* 'lung'.

$\boldsymbol{*h_1eh_1tr\text{-}}$ '± lung, internal organ'. [*IEW* 344–345 (**ēter-*)]. OIr *inathar* (< $*h_1en\text{-}h_1oh_1tr\text{-}o\text{-}$) 'entrails', ON *æðr* 'vein', OE *ǣdre* 'artery, vein, sinew' (pl. 'kidneys'), OHG *ād(a)ra* 'vein, sinew' (pl. 'entrails'), OHG *inn-ēthron* 'suet, lard', Grk *ἦτορ* 'heart', *ἦτρον* 'belly, abdomen', Av *hv-āθra-* 'comfort, ease'. Adjectival derivatives ($*h_1eh_1trós$) are ON *āðr* 'early, previous', OE *ǣdre* 'immediately, completely', OHG *ātar* 'wise, sharp, quick', Latv *ātrs* 'quick, passionate, hot-tempered' (crossed with $*h_2eh_xtr\text{-}$ 'fire'). Though never attested as 'lung', it seems reasonable to suppose that this organ was included in the sphere of its original designation since it obviously related to $*h_1eh_1tmén\text{-}$ 'breath'. Perhaps it was the interior of the body in general, the source both of breath and life, and of emotion in general. In any case an old PIE word.

See also Anatomy; Breathe. [D.Q.A.]

LYNX

luk̑- 'lynx (*Lynx lynx*)'. [*IEW* 690 (**leuk̑-*); GI 431 ($*leuk^h\text{-}$); BK 580 (**law-/*ləw-*)]. MIr *lug* 'lynx' (base meaning, generally figurative meaning 'warrior, hero, fighter'), OSwed *lō* (< **luk̑o-*) 'lynx', OE *lox* 'lynx', OHG *luhs* ~ *luchs* 'lynx' (the *-ks-* of West Germanic may reflect the influence of *fox*), OPrus *luysis* 'lynx', Lith *lū́šis* 'lynx', (dial.) *lųnšis* 'lynx', Latv *lūsis* 'lynx', Rus *rysĭ* 'lynx' (whose *r-* may come from a



Lower Mikhaylovka b. Lower Mikhaylovka vessel; c. "Censer".

crossing of this word with an adjective meaning 'red'), Grk λύγξ 'lynx' (borrowed > NE *lynx*), Arm (pl.) *lusanunk'* 'lynxes'. Perhaps belonging here also are Khowar *ruṣk* 'marten', Yidgha *lū* 'marten'. At least a word of the west and center of the IE world. This word is commonly taken to be a derivative of **leuk-* 'see'. Thus the lynx is named 'the looker' or the like, cf. the sharp-eyed pilot of the Greek *Argo*, Lynkeus, and the epithet 'lynx-eyed' with reference to extra-sharp eyesight.

Once widespread over Eurasia, the lynx today is confined largely to central and eastern Europe (with pockets in Iberia) although it still extends across western Asia, Iran and throughout Siberia. It does occur in Neolithic faunas of northern, western and southern Europe as well although in quantities that suggest that it was seldom or never hunted for its fur. It is also known from sites in the Pontic region. No matter where one locates the earliest Indo-Europeans, they should have known the lynx. That they might have preserved the name in regions where it had become extinct is suggested by its presence in both Middle Irish and Old English since the lynx had died out in the British Isles quite early in the prehistoric period, the most recent find being only of Mesolithic date.

See also CAT; MAMMALS. [D.Q.A., J.P.M.]

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MACEDONIAN LANGUAGE

The name of the territory which comprises the modern Macedonian Republic, and bordering territories in south Bulgaria and northern Greece, has been applied to a number of variants of IE languages. Slavic Macedonian represents one of the branches of the South Slavic language stock whose linguistic relationship is reasonably secure. As a (possibly) independent IE language or even stock, the term Macedonian is also employed to describe the language spoken there before the fifth and fourth centuries BC when the rise of the Macedonian state also saw its gradual "Atticization". According to Strabo, the ancient name for the land of the Macedonians was Ἠμαθία and the name of its people has been explained as derived from *μακεδνός* 'tall, taper', with possible reference to either the population's stature or the hills in which they dwelt.

The evidence for a Macedonian substrate rests on coin inscriptions and glosses and our reliable Macedonian vocabulary is limited to about a hundred words plus a series of place and personal names. The majority of these words can be confidently assigned to Greek albeit some words would appear to reflect a dialectal form of Greek. There are, however, a number of words that are not easily identifiable as Greek and reveal, for example, voiced stops where Greek shows voiceless aspirates, e.g., Maced *ἀβροῦτες* but Grk *ὀφρῦς* 'eyebrow', Maced *δάνον* but Greek *θάνατος* 'death' or the Macedonian royal name *Βερνίκη* 'Bernice' ('± bearing victory') which in Greek would have been **Φερενίκη*. In some cases there is no corresponding Greek form and Macedonian contributes its own cognate to an IE series, e.g., Maced *γόδα* 'intestines' is from **gudóm* 'intestines' (cf. LowGerm *küt* 'intestine', OInd *gudá-* 'intestine, anus'). The evidence, extremely meager as it is, has spawned no less than four historical interpretations for Macedonian. It has been seen as an "Illyrian" language mixed with Greek; a Greek dialect mixed with Illyrian and Thracian; a Greek dialect with a non-Greek substratal influence; and a close cousin of Greek but not part of the Greek stock (and also related to Thracian and Phrygian).

See also GREEK LANGUAGE; ILLYRIAN LANGUAGE; THRACIAN LANGUAGE. [J.P.M.]

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MAGGOT *see* WORM

MAGIC

****keudes-*** 'magic force'. [*IEW* 587 (**kēud-*); Wat 31 (**keuə-*); GI 734–735 (**kʰe/ou-*)]. OCS *čudo* 'miracle, wonder', Grk *κῦδος* 'renown'. In a study of the Greek term, Benveniste has shown that in Homer the term does not mean 'glory' but rather indicates the edge given to a hero by the gods which gives him an advantage over his adversaries. It denotes the magic force, the irradiation of power a god can bestow upon a king or hero. It is also something that is recognized by his adversaries, i.e., they perceive that one with *κῦδος* cannot be defeated. Thus it fits better with the Slavic term which indicates 'magic'. From **keuh₁-* 'pay attention to', cf. Lat *caveō* 'am careful', OE *hīeran* 'hear' (> NE *hear*), OHG *hōr(r)en* 'hear', Goth *hausjan* 'hear', OCS *čują* 'perceive', Av *kavay-* 'leader', OInd *kaví-* 'wise man'. The underlying semantic development, Benveniste suggests, is 'perceive' > 'perceive something strange' > 'marked with magic power,

charmed'.

***soito/eh$_a$-** 'sorcery'. [*IEW* 892 (**soi-to-*)]. Wels *hud* (< **soito-*) 'magic', ON *seið* 'magic'. Compare also ON *siða* 'practice sorcery', OE *-siden* 'magic' (*ælfsiden* 'fever' < 'elf-magic'). The term may be limited to the northwest although attempts to extend it have been made, e.g., ?TochA *nesset* 'magic', ?TochB *nesait* 'magic'. It has also been suggested that the underlying etymology is to be found in the root **seh$_1$(i)-* 'bind', i.e., 'magic' is something that "binds" or "fetters" someone, cf. ON *seiðr* 'band, belt', OE *sāda* 'band, noose, cord', Lith *saĩtas* 'bond, fetter', etc., and other etymologies have been proposed. It has also been claimed as a pre-IE substrate term of northwest Europe.

***h$_x$olu** or ***alu** '± spell'. [cf. *IEW* 33 (**alu-*); Wat 2 (**alu-*); GI 708]. Runic *alu* '± magic spell', ON *ǫl-rūn* '± myth' (or '± taboo'?—the meaning of neither the Runic nor the Old Norse word is known very precisely but they have some sort of magical import), Hit *alwanzatar* 'witchcraft, sorcery, spell, hex', *alwanzahh-* 'bewitch, hex' (presupposing an unattested **alwanza-* '± affected by sorcery, bespelled'). Possibly belonging here are also Latv *aluôt* 'be distraught', Grk *ἀλύω* 'be beside oneself, lose self-possession under extreme emotion, be delirious' if the meaning has been "secularized" so to speak from *'be bespelled'. The Germanic-Hittite equation seems reasonably secure, thus guaranteeing the word's PIE status. Sometimes included here are the Germanic, Baltic, Slavic, and Iranian words for 'beer' (cf. NE *ale*) since drinking beer may induce a 'bespelled'-like state of drunkenness. However, it is at least possible that the words for 'beer' are to be kept separate.

See also **Beer**; **Binder God**; **Sacred Drink**. [E.C.P., D.Q.A.]

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MAGPIE

***k̑arh$_x$keh$_a$-** 'magpie'. [*IEW* 569 (**ker-*)]. OPrus *sarke* 'magpie', Lith *šárka* 'magpie', Rus *soróka* 'magpie'. Although sometimes attributed to PIE, the only sure cognate set for this word is confined to Baltic and Slavic. Armenian cognates are sometimes suggested but Arm *sarik* (< ?**k̑er-*, **k̑r̥-*) designates the 'rose-colored starling' and is perhaps a New Persian loan (< *sār* 'starling') while Arm *sarek* is a 'thrush, blackbird' and MArm *sareak* is the 'blackbird'; the Armenian word for 'blackbird' *kač'ałak* is a loan from NPers *kajala* 'magpie'. Similarly, OInd *śārikā-* 'starling' although deriving from the same root **k̑er-* is semantically difficult (the Old Indic name of the magpie was *kuśakuṭha-* or *kālkūda-*). Though bird name roots in **k* are suspect of being onomatopoeic, PIE **k̑er-* with a palatal velar was a parent form for various IE dialects, e.g., Grk *κόραξ* 'raven', Lat *cornīx* 'crow'.

The magpie (*Pica pica*), noted for its forceful personality, arrogant chattering and boldness, is well distributed throughout Europe, southwest Asia and in India, where there are several species. It is generally smaller than the crow, but with a longer tail; its color is black with white patches under the wings and body.

See also **Birds**. [J.A.C.G.]

MAKE

***k^{w}er-** 'do, make, build'. [*IEW* 641–642 (**k^{u}er-*); Wat 34 (**k^{w}er-*); GI 151 (**k^{ho}er-*); Buck 9.11; BK 331 (**k^w[^{h}]ur-/*k^w[^{h}]or-*)]. OIr *cruth* 'form', Wels *pryd* 'form, time', *paraf* 'work, shape', Lith *kuriù* 'make, build, create', *kẽras* 'magician', *kerė́ti* 'bewitch, enchant, charm', OCS *kručĭjĭ* 'smith', Rus *čáry* 'magic', *čarovátĭ* 'bewitch, enchant, charm', Av *kərənaoiti* 'does, makes', OInd *karóti* ~ *kr̥ṇóti* 'does, makes, performs; executes; builds'. Widespread and old in IE.

***i̯eh$_1$-** 'do, make; act vigorously'. [BK 468 (**ya-*)]. The underlying verb is seen in Hit *iēzi* (< **i̯eh$_1$-ti*) 'does, makes, performs, acts, signals (with the eyes)', *iss(a)-* (< **ih$_1$-se/o-*) 'do, make', TochA *ya-* 'do, make'. Various derivatives are seen in Lith *jėgà* 'strength, force', Latv *jēga* 'mind, thought; wit', OCS *jarŭ* 'stern, severe, sharp; tart, sour', Rus *járyj* 'violent, furious, fiery', Grk *ἥρως* 'hero' (< *'one imbued with vigorous activity'), *Ἥρᾱ* 'Hēra' (the embodiment of vigorous activity), (late) Doric *εἴρην* (= /īrēn/) 'adolescent youth', *ἥβη* 'youthful power, youth; pubic hair' (the outward sign of youthful maturity), Av *yātu-* 'witchcraft; sorcerer', OInd *yātú-* 'witchcraft, magic; ghost, apparition'. Surely old in IE.

***kon-** 'do, make'. [*IEW* 564 (**ken-*); Wat 29 (**ken-*); BK 270 (**k[^{h}]an-/*k[^{h}]ən-*)]. OWels *digoni* 'makes, does', Lat *cōnor* 'put myself in motion, attempt', OCS *ukonŭ* 'execution, deed', Czech *konat* 'do, achieve', *výkon* 'achievement', Myc *ka-si-ko-no* 'servant, companion', Grk *διᾱκονέω* 'minister to, serve', *διᾱ́κονος* 'servant' (borrowed > NE *deacon*), *ἐγκονέω* 'make haste', Oss *kæn-* 'do, make'. Widespread and old in IE.

***h$_a$er-** 'prepare, make ready, put together'. [*IEW* 55-57 (**ar-*); Wat 3 (**ar-*); Buck 9.943, 12.22, 14.29, 16.73; BK 383 (**ħar-/*ħər-*)]. Grk *ἀραρίσκω* 'put together', Arm *ařnem* 'make', Av *arānte* 'they set themselves, remain', OInd *ará-* 'spoke' (< *'that which is fitted in'), TochA *ārwar* 'ready', TochB *ārwer* 'ready'. The verb itself looks like it is restricted to the southeast of the IE world but derived nouns indicate that it was once more widely distributed. (1) **h$_a$értis* (gen. **h$_a$r̥téis*): Lat *ars* (gen. *artis*) 'practical skill, (work of) art', *artiō* 'insert tightly, wedge; am a tight fit, crowd', Lith *artì* 'near'; (2) **h$_a$értus* (gen. **h$_a$r̥tóus*): Lat (pl.) *artūs* 'joints; limbs', *artus* 'a narrow place', MHG *art* 'way, manner', Grk (Hesychius) *ἀρτύς* 'putting together, arranging', *ἀρτύω* 'put together, make ready', Arm *ard* (gen. *ardu*) 'structure, ornament', OInd *r̥tú-* 'fixed time, time appointed for some purpose' (cf. also Av *aša-* 'what is right or true', OPers *arta-* 'law, right', OInd *r̥tá-* 'afflicted with; right, proper', *r̥tám* 'fixed rule; divine law; sacred or pious action').

See also **Tool**; **Work**. [D.Q.A.]

MALE

***r̥sén** 'male (as opposed to female)'. [*IEW* 336 (**r̥sen-*); Buck 2.23, 2.12]. ON *orri* 'capercaille', OHG *or(e)huon* 'capercaille', Grk *ἄρσην* 'male', Av *arəšan* 'male' (note also such compounds as *aspa-arəšan-* 'stallion' vs. *aspa-daēnu-* 'mare', of *gau-arəšan-* 'bull' vs. *gau-daēnu-* 'cow'), OInd *r̥ṣabhá-* 'bull; male animal in general'.

***u̯érsēn** 'male (as sire)'. [*IEW* 81 (**u̯r̥sen-*); GI 484 (**wers-en-*); Buck 2.23, 3.12; BK 427 (**aw-ar-/*əw-ar-*)]. Lat *verrēs* 'boar', OPrus *werstian* 'calf', Lith *veršis* 'calf', Latv *vḕrsis* 'ox', Av *varəšna-* 'male', *varəšni-* 'male; ram', OInd *vŕ̥ṣan-* 'male, manly; man; male animal (e.g., bull, stallion)', *vr̥ṣabhá-* 'manly, vigorous, strong', TochA *kayurṣ* 'bull', TochB *kau$_u$rṣe* 'bull' (Toch < **g^{w}ou-u̯r̥sen-*). Both this word and the previous one are widespread and old in IE and liable to phonological and semantic confusion (particularly in Old Indic) owing to their near identity on both counts.

See also MAN. [D.Q.A.]

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MAMMALS

Proto-Indo-European speakers knew and named many species of mammals, both wild and domestic, and we are able to reconstruct a substantial list of those names. Unlike the case for plant names where the gaps (terms for plants that we know the PIE speakers must have known) outnumber the instances where we can reconstruct a proto-form, the names of mammals, particularly the larger ones which were economically important or environmentally salient, appear to be much better represented. By and large it is the smaller mammals who lack names or provide us with a reconstructible name that appears to comprise more than one species, or even a range of different, and occasionally disparate, species. Since the same phenomenon can be found in the older attested IE languages, e.g., Lat *fēlis* 'small carnivore, e.g., marten, polecat, wildcat', there seems no reason not to impute it to PIE itself.

The existence of mammals known to the Proto-Indo-European community may also be proposed from archaeological or bio-geographical evidence. Certain widely distributed animals such as the badger must have been known to the Proto-Indo-Europeans, no matter where they were situated, even if we are unable to reconstruct with any certainty a common word for it. In evaluating the distribution of these mammals, however, both lines of evidence have certain limitations. For example, animals present in the environment and well-known to prehistoric communities may not have been killed frequently nor their remains brought back to settlements where they might be uncovered by archaeologists. The reasons for this lack are varied and may range from the economic unimportance of the animal, e.g., various types of mice, voles, shrews, to the understandable desire for human communities to avoid rather than seek out lions, panthers, bears or other large predators. Modern or historical distributions of animals may also be biased in that often the modern range of an animal is only a fraction of the earlier range because of the hunting of animals to extinction, e.g., bears, beavers and wolves in western Europe, or climatic and environmental changes. The reverse situation, although less frequent, may also occur where mammals may have established new ranges, e.g., fallow deer, rabbits, mongooses, since the dispersion of the IE stocks. Finally, where animals were not economically or mythologically salient to a community, there may have been little attempt to provide them with a precise name and just because we can point to an animal in the environment does not necessarily presuppose that the human occupants of the same environment had a special name for it.

The order of presentation here follows that of traditional zoological taxonomy, beginning with the order of insectivores and ending with the ungulates.

INSECTIVORA

Among the insectivores, the 'hedgehog' (*Erinaceus europaeus*) (**h_1eĝhis*) is the best reconstructed where it is found from Germanic to Armenian although it is lacking in the eastern languages. A second possible word (**ghḗr*) is restricted to Latin and Greek. This restricted distribution of reconstructible terms cannot be explained on environmental grounds as the hedgehog was known in Asia as well as Europe and its killing (under a different name) was specifically proscribed in early Iranian law. The only other insectivore to provide some case for reconstruction is the 'shrew' (**su̯oraks*) where cognates may be found in Latin and Greek. The varieties of shrews known to the earliest Indo-Europeans, should they have cared to distinguish them, is probably extensive and would include the common shrew (*Sorex araneus*), the European water-shrew (*Neomys fodiens*), Savi's pygmy shrew (*Suncus etruscus*), the lesser white-toothed shrew (*Crocidura suaveolens*), the common European white-toothed shrew (*Crocidura russula*), the bicolor white-toothed shrew (*Crocidura leucodon*), possibly the lesser shrew (*Sorex minutus*) and Alpine shrew (*Sorex alpinus*).

Without reconstructible designations but surely part of the faunal environment of PIE speakers, wherever in Eurasia they made their home, was the mole (either or both the common mole [*Talpa europea*] and the Mediterranean mole [*Talpa caeca*]). This animal has defied reconstruction despite its marked physical characteristics, its unusual behavior, and the importance of this animal within the realm of IE medical beliefs as attested in both Greece and ancient India. The range of the Russian desman (*Desmana moschata*) would have fallen within a proposed Pontic-Caspian homeland.

CHIROPTERA

The entire order chiroptera (bats) is missing from the reconstructed lexicon but bats could hardly have eluded the

attention of the earliest IE speakers. The probable types known should have included the greater horseshoe bat (*Rhinolophus ferrumequinum*), the lesser horseshoe bat (*Rhinolophus hipposideros*), the whiskered bat (*Myotis mystacinus*), large mouse-eared bat (*Myotis myotis*), and a variety of other species.

LAGOMORPHA

The lagomorph with the most obvious economic use is the **ḱasos* ~ **ḱasen-* 'European hare (*Lepus europaeus*)', which is not only ubiquitous across Eurasia but occurs on archaeological sites in numbers that suggest deliberate hunting or trapping rather than just chance encounter. A Volga-Ural homeland might presuppose knowledge of the steppe pika (*Ochotona pusilla*). The rabbit (*Oryctolagus*) would not have been known to the early Indo-Europeans as it emerged only in the Iberian peninsula and was first domesticated during the historical period and spread through Europe during the Middle Ages.

RODENTIA

While the larger rodents could provide a useful source of both meat and, more particularly, fur they are seldom encountered on archaeological sites in large numbers that might suggest specific exploitation. Nevertheless, some of the larger rodents are reasonably well reconstructed to PIE. Thus we have cognates ranging from the Atlantic to Iran for the **u̯eru̯er-* 'red squirrel (*Sciurus vulgaris*)' and possibly the 'Persian squirrel (*Sciurus anomalus*)', and the **bhébhrus* 'European beaver (*Castor fiber*)'. Although the mouse played no economic role and its remains are generally absent from archaeological sites, its widespread presence across Eurasia is reflected in the abundance of cognates providing us with three terms for 'mouse': **mū́s* ~ **múss*, **pélus*, and **gl̥h₁ís*, the last of which might have designated the 'dormouse'. Among the possible referents would be the garden dormouse (*Eliomys quercinus*), the forest dormouse (*Dryomys nitedula*), the fat dormouse (*Glis glis*), the common dormouse (*Muscardinus avellanarius*), the harvest mouse (*Micromys minutus*), the yellow-necked field mouse (*Apodemus flavicollis*), the common field mouse (*Apodemus sylvaticus*), the striped field mouse (*Apodemus agrarius*), and the house mouse (*Mus musculus*), all of which have enormous ranges across Eurasia.

Missing are any reconstructible terms for the common hamster (*Cricetus cricetus*), the migratory or gray hamster (*Cricetus migratorius*), the golden hamster (*Mesocricetus auratus*), the ground squirrel or European souslik (*Citellus citellus*) which has a range from Germany to the Ukraine and into Anatolia, the spotted souslik (*Citellus suslicus*) which ranges from Poland and Romania to the Volga, the little souslik (*Citellus pygmaicus*) which ranges from the Ukraine across Kazakhstan, the bobak marmot (*Marmota bobak*) which ranges from Poland across the Ukraine and south Russia and then south to northern India; the range of the southern birch mouse (*Sicista subtilis*) runs from Central Europe to Kazakhstan, the great jerboa (*Allactaga major*) from the Ukraine to the Altai, the little earth hare (*Alactagulus pumilio*) from the north Caucasus and Volga across Kazakhstan, the northern three-toed jerboa (*Dipus sagitta*) from the northern Caucasus to the Altai steppe, the thick-tailed three-toed jerboa (*Stylodipus telum*) from the Crimea to Mongolia; also missing are any reconstructed words for the common redbacked vole (*Clethrionomys glareolus*), the water vole (*Arvicola terrestris*), the European pine vole (*Pitymys subterraneus*), the snow vole (*Microtus nivalis*), the social vole (*Microtus socialis*), the common vole (*Microtus arvalis*), possibly the field vole (*Microtus agrestis*). A steppe origin might presuppose knowledge of the northern mole-vole (*Ellobius talpinus*) and the steppe lemming (*Lagurus lagurus*). In addition, we have no common term for the mole rats, either the Russian mole rat (*Spalax microphthalmus*) which is known from Greece and Poland in the west across the Ukraine and Russia, or the lesser mole rat (*Spalax leucodon*), known from eastern Europe and the Balkans to the Ukraine and Anatolia, despite the fact that, like the moles, they play an important comparative role in Greek and Old Indic medical tradition.

CETACEA

There are no terms for any of the cetacea (whales, dolphins and porpoises) which is hardly unexpected. However, the range of the common dolphin (*Delphinus delphis*) extends from the Atlantic, through the Mediterranean and into the Black Sea, rarely to the Baltic, which would put it in the vicinity of most solutions to the IE homeland problem.

CARNIVORA

One of the most solidly attested mammal names is that of the canid 'dog' (**ḱ(u)u̯ṓn*), the first wild animal to be domesticated. Much more dubious are attempts to reconstruct an early IE term for 'puppy' or 'young dog' (*??*(s)koli-*). Names for the more widespread wild canids are also solidly reconstructible. These comprise the **u̯l(o)p-*, 'fox (*Vulpes vulpes*)' with considerable phonological alteration and the 'wolf (*Canis lupus*)' (**u̯l̥kʷos*) and 'she-wolf' (**u̯l̥kʷíh₂-*). Other canids that may have been known would include the Asiatic jackal (*Canis aureus*) which is known from the Balkans to India, possibly the corsac fox (*Vulpes corsac*) which was known from the Volga to Iran, and Blanford's fox (*Vulpes cana*), found from Anatolia, southwest Russia to Baluchistan.

The single ursid that one might expect is that of the **h₂ŕ̥tḱos* 'brown bear (*Ursos arctos*)' whose name is clearly old and solidly reconstructed to PIE.

As relatively smaller mammals, the mustelids are less strongly reconstructed to PIE antiquity than many of the larger mammals. Probably the best is the **udrós* 'common otter (*Lutra lutra*)' whose name is a transparent derivative of the word for 'water'. Otherwise, the reconstructed terms are either areally specific such as the central IE designation for the 'weasel, ermine/stoat' **ḱormon-* or a (western?) word for 'weasel', *?*(hₐ)u̯iselos* or 'marten' (possibly 'wildcat') *?*bhel-*,

or more widespread terms whose underlying meaning is even less certain, e.g., _*kek̂-_ which underlies 'polecat' (in the center) but 'weasel' (in the east). Setting aside the lexical confusion between the different species, the mustelids most likely to have been known to the PIE community would include the pine marten (_Martes martes_), the stone or beech marten (_Martes foina_), the stoat or ermine (_Mustela erminea_), the weasel (_Mustela nivalis_), the European polecat (_Mustela putorius_), and the marbled polecat (_Vormela peregusna_). The distribution of the wolverine (_Gulo gulo_) ranges across northern Europe but may have been too far north for the earliest IE speakers (although its prehistoric range extended as far south as the Tripolye culture and the early Neolithic of the Ukraine); however, the distribution of the badger (_Meles meles_) is so widespread across Eurasia that it is difficult to imagine it not being known. Its presence on European Neolithic sites ranges from chance (remains of one to five individuals) to deliberate hunting, e.g., over twenty from various lake-side Neolithic sites in Switzerland. It is reconstructible at the level of IE stock in Celtic, Germanic, Baltic and Slavic but, with the possible exception of a Latin-Slavic isogloss, no further, all of which suggests a series of late formations, possibly based on pre-Indo-European substrates.

Among the cats, the least controversial animal to be reconstructed is the _*luk̂-_ 'European lynx (_Felis lynx_)' for which a common word is attested in the west and center of the IE world. The caracal lynx (_Felis caracal_) ranges over the distribution of the Asiatic IE stocks. A perennial cause of debate are the possible cognate terms for the large cats, the _?*li(u̯)-_ 'lion (_Panthera leo_)' and the _??*sinĝhós_ 'leopard (_Panthera pardus_)'. An animal far more ubiquitous on archaeological sites across Eurasia, the European wildcat (_Felis silvestris_) and the Asiatic African wildcat (_Felis Libyca_), lie beyond reconstruction (unless preserved as _?*bhel-_) although it must have been known to the earliest Indo-Europeans. The jungle cat (_Felis chaus_) was known from the Volga and Anatolia southeast to India as is also the Pallas cat (_Felis manul_).

Ungulates

The major equids, indeed one of the mammals most closely associated with the Indo-Europeans, is the *$h_1$ék̂u̯os, '(presumably domestic) horse (_Equus caballus_)', which is also attested in the female form *$h_1$ék̂u̯eh$_a$- 'mare', and in more regionally confined terms: _*márkos_ 'domestic horse (_Equus caballus_)' and/or 'wild horse (_Equus przewalskii_ or _gmelini_)' and _*ĝhéi̯os_ 'horse (_Equus caballus_)'. Two other equid terms are preserved in specific regions; from the east is _?*gordebhós_ 'ass/donkey (_Equus hydruntinus_)' or 'onager/kulan (_Equus hemionus_)' or 'domestic ass (_Equus asinus_)', and from the west and center of the IE world comes _?*mú(k)skos_ ~ _*mukslós_ 'ass/donkey (_Equus hydruntinus_)' or 'onager/kulan (_Equus hemionus_)'.

Pigs are attested under a number of names: _*sū́s_ 'pig (wild or domesticated) (_Sus scrofa_)' which along with _*pórk̂os_ 'young pig, piglet' is strongly reconstructed and *$h_1$eperos 'boar (_Sus scrofa_)' which is confined to the west and central regions of the IE world.

Terms for deer, among the most widely hunted animals of Eurasia, are relatively abundant and include the strongly reconstructed *$h_1$elh$_1$ḗn 'red deer/(American) elk (_Cervus elaphus_)' and its feminine derivative (here found in the west and center) *$h_1$elh$_1$níh$_a$- 'hind/cow-elk'. Presuming that the underlying meaning is best retained in the west and center, we also have the *$h_x$ólk̂is 'elk/American moose (_Alces alces_)' which tends to mean some form of sheep or antelope in the east. Geographically much more confined terms would include _?*bhrentós_ 'stag' and _??*b(h)roid(h)is_ 'red deer; elk'. Widely attested archaeologically is also the roedeer whose name in IE survives at least in the far west and center as _*i̯órk̂s_ 'roedeer (_Capreolus capreolus_)'. If the IE homeland existed on the east Russian steppe, then the saiga antelope (_Saiga tatarica_) should have been known. If the homeland lay somewhere further west, i.e., anywhere between Spain and the Caucasus, including the Balkans and Anatolia, one might have expected the chamois (_Rupicapra rupicapra_) to have been known. The absence of a word for the fallow deer (_Dama dama_), which is confined to southern Europe is not unexpected.

The bovids comprise primarily but not exclusively the main domestic livestock of the early Indo-Europeans and terms for both cattle and sheep/goat are abundant and very strongly attested. Words for the domestic cow include *g^wóus (gen. *g^wóus) 'cow' (in both the English senses: 'adult female bovine' and 'bovine of any age or sex (_Bos taurus_)' which is found in most IE stocks and words like *h_1eĝh- 'cow', *u̯ok̂éh$_a$- 'cow' and *uk$^{(w)}$sén 'ox' which are found on the peripheries of the IE world. Wild bovids are found under the names of _*tauros_ 'aurochs; bull (_Bos primegenius_)' which is widespread and old in IE and the regionally more confined _??*u̯is-_ and/or _*ĝ(h)ombhros_ 'bison (_Bison bonasus_)'.

Sheep and goats may be discussed together for a number of reasons. It is not only the fact that palaeozoologists who study their remains from archaeological sites find it difficult to distinguish them (except for horns and certain bones) but it is clear that the PIE speakers themselves may have grouped them together under the category of 'small domestic animal' (*meh$_1$l-) and opposed them to large stock, cattle and horses. This can also be found in modern IE languages, e.g., NHG _kleinvieh_ 'small livestock' (although here pigs may be included), and Rus _mélkij (rogátyj) skot_ 'sheep and goats'. The linguistic evidence, however, for the two kinds of animals is rather different in that sheep terminology tends to be both persistent and pan-IE while there is no single word for 'goat' although the goat's presence is supported by numerous regional isoglosses. Words primarily associated with sheep comprise *$h_2$óu̯is 'sheep (_Ovis aries_)', a word virtually ubiquitous among the IE stocks and the less strongly but still PIE feminine derivative *$h_2$ou̯ik̂éh$_a$- 'ewe'. The young sheep is found in regional terms, *$h_a$eg^{w}hnos 'lamb' and *$h_1$er-

'lamb, kid' in the west and center, and *$u̯r̥h_1én$- 'lamb' in the center and east. Further terms associated with sheep are *moisós 'ram, sheep; fleece, skin', found in the center and east, and ?*(s)k̂ego- 'sheep/goat' which is known on the peripheries. The terms for goats include one widespread and clearly PIE term: *bhugos 'buck, he-goat (male *Capra hircus*)', and a series of regionally specific words in the west: *ghaidos 'goat (*Capra hircus*)', *kápros 'he-goat'; the west and center: *díks (gen. *digós) 'goat (*Capra hircus*)'; the center: ?*$koĝhéh_a$- 'goat (*Capra hircus*)'; and the center and east: *$h_aeiĝs$ 'goat (*Capra hircus*)' and *$h_aeĝós$ 'he-goat (*Capra hircus*)'. The ibex (*Capra ibex*) ranges across the mountainous regions of northern Italy to the Caucasus and south to northwest India.

In addition to the genus or species labels for the various mammals, the early Indo-Europeans also had a number of more generic terms for animals/mammals that contrasted them with other categories, e.g., fish, insects. These comprise the transparent compound *k^wetu̯or-pod- 'animal' (i.e., 'quadruped') which is strongly reconstructed as well as designations for both the *ĝhu̯ér 'wild animal' and the domestic *pék̂u 'livestock', both old and widespread in IE. Other cognate series suggest the existence of *g^wi̯éh₃u̯iom 'animal' (< *'living thing') and *$léuh_xōn$ 'animal' (< *'the one of the hunt'), both of possible PIE date. Mammals were also divided by categories of size and we can reconstruct to PIE general terms for both large and small animals: *steuros 'large (domestic) animal' and *meh_1l- 'small animal'.

See also Animal; Ass; Badger; Bear[1]; Beaver; Cat; Cow; Deer; Dog; Elephant; Elk; Fox; Goat; Hare; Hedgehog; Horse; Leopard; Lion; Lynx; Marten; Monkey; Mouse; Otter; Pig; Polecat; Sheep; Shrew; Squirrel; Weasel; Wolf.

[D.Q.A., J.P.M.]

Further Readings

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MAN

***$u̯ih_xrós$** 'man, husband'. [*IEW* 1177–1178 (*u̯īro-s); Wat 78 (*wī-ro-); GI 391 (*wīr-); Buck 2.21; Wordick 210–211]. OIr *fer* 'man, husband', Wels *gŵr* 'man, husband', Lat *vir* 'man, husband', Umb *ueiro* 'man', ON *verr* 'man, husband', OE *wer* 'man, husband' (> NE *werewolf*), OHG *wer* 'man, husband', Goth *waír* 'man', OPrus *wijrs* 'man', Lith *výras* 'man, husband', Latv *vīrs* 'man, husband', Av *vīra-* 'man; person (as opposed to animals)', OInd *vīrá-* 'hero; (eminent) man; husband'. A derived adjectival form of this word is to be found in TochA *wir* 'young, fresh'; possibly Alb *ri* 'young', which might also be placed here as a metathesized form of *$u̯ih_xrós$ (i.e., > *$u̯rih_xos$). Clearly PIE status.

***$h_anér$** (gen. ***$h_an̥rós$**) 'man, person'. [*IEW* 765 (*ner-(t-)~ *aner-); Wat 44 (*ner- ~ *əner-); GI 703 (*H̥ner-(t^h)-); Buck 2.21; BK 558 (*nir-/*ner-)]. Wels *nêr* 'hero', Umb *ner-* 'chief', Osc *ner-* 'man, chief', Alb *njerí* 'person', Grk ἀνήρ 'man', Arm *ayr* (gen. *aṙn*) 'man, person', Phryg αναρ 'man', Luv *annara/i-* 'forceful, virile', Av *nar-* 'man, person', Oss *næl* 'man', OInd *nár-* 'man, person'. Cf. the derivatives: OIr *nert* 'strength, power', Wels *nerth* 'manliness, courage; army', Lat *neriōsus* 'firm', OPrus *nertien* 'anger', Lith *nóras* 'will', OInd *nr̥tú-* 'hero'; and from *su-$h_an̥r̥$-tós 'provided with vital energy' we have OIr *sonairt* (< *so* + *nert*) 'brave, strong', Wels *hynerth* 'brave, strong', OInd *sūnŕ̥tā-* 'exultation'. Distribution supports PIE status.

***dhĝhm̥-on-** 'man'. [*IEW* 414–415 (*ĝhđem-); Wat 14 (*dhghem-); GI 720-721 (*$d^h(e)ĝ^hom$-); Buck 2.21; BK 81 (*$diq[^h]$-/*$deq[^h]$-)]. OIr *duine* 'human', Wels *dyn* 'person', OLat *hemō* 'man', Lat *homō* 'person', ON *gumi* 'man', OE *guma* 'man' (> NE *bridegroom* after folk etymology), OHG *gomo* 'man', Goth *guma* 'man', OPrus *smoy* 'person', Lith *žmuō* 'person'. From *dhĝhom- 'earth'. Although sometimes cited here, TochB *śaumo* 'man', akin to TochA *śoṃ* 'youth' are both < PIE *g^wi̯eh₃u-mon- 'living'. A word of the IE northwest.

***mórtos** 'man, mortal'. [*IEW* 735 (*mór-to-); Wat 42 (*mer-); GI 396; BK 525 (*mir-/*mer-)]. Grk (Hesychius) μορτός 'man, mortal', Arm *mard* 'man', Av *marəta-* 'mortal', OInd *márta-* 'mortal'. From *mer- 'die'. Banal derivation from very productive root coupled with distribution among southeastern stocks often sharing isoglosses suggests that this is a late dialectal term in IE.

***mVnus** 'man'. [*IEW* 700 (*manu-s); Wat 38 (*man-); GI 396 (*manu-); Buck 2.1]. ON *maðr* ~ *mannr* 'man', OE *mann* 'man' (> NE *man*), OHG *mann* 'man', Goth *manna* 'man' (?Gmc < *monwon-), OInd *mánu-* 'man; person' (< *ménu-). Often derived from *men- 'think'. The nature of the relationship between the Germanic and Old Indic is not entirely clear as the Germanic words are derived *n*-stems. Distribution on the peripheries of the IE world suggests PIE status.

The most common word to designate the adult male human, *$u̯ih_xrós$, may be connected to a root 'strong'. A similar passage in both Umbrian (*ueiro pequo*) and Avestan (Ys. 9.4) (*pasu vīra*), which finds 'men' joined in context with 'flocks', indicates that the PIE *$u̯ih_xrós$ was also seen as a worker. In the stocks where it co-occurs with the second term, *$h_anér$-, it is always the less honorific. The second term for man, also relatable to the concept of strength, often has a sense of honor or prestige about it and the semantics of *$u̯ih_xrós$ and *$h_anér$ may perhaps be compared to German *mann* and *mensch*. In addition to seeing men as sources of

either physical or social strength, Indo-European society viewed humans as inhabitants of the earth and a widespread term *dhĝhm̥-on- 'earthling' is recorded in northwestern Europe. In southeastern Europe and western Asia a term based on the concept of 'death' designated humans as *mórtōs 'mortals'. A root found only in the extreme west (Germanic) and the east (Indic), *mVnu-, was perhaps the original Indo-European designation of humans without regard to gender. Some have argued that this form may be based on the root 'to think' and designates humans as rational beings. The English cognates of this root have recently become associated exclusively with the male gender (cf. also NHG *mann* 'man (male)'), and a host of originally gender-free compounds are now being revised to restore the earlier unbiased meaning, 'rational being'. Slavic forms: OCS *mǫžī* 'man', Rus *muž* 'man', are perhaps from a different root signifying virility, which is also seen in Alb *mëz* 'colt' (< *mong^{w}i̯o-) and is the basis of the Greek word Ἀμαζών, which although frequently folk-etymologized as 'breastless' by the ancient Greeks and more recently identified with Iranian tribes, it is more probably from PIE *n̥-mn̥g^w-i̯on-es 'man-less, without husbands'.

See also DEATH; EARTH; HUSBAND; KINSHIP; MALE; MANU; STRENGTH; WOMAN. [M.E.H.]

MANE *see* HAIR

MANU

***manu-** 'Man, ancestor of humankind'. [*IEW* 700 (*manu-); Wat 38 (*man-); BK 542 (*man^y-/*mən^y-)]. Germ *Mannus* (ancestor of the Germans), Av *Manus-čiθra* 'descendent of Manu', OInd *Mánu* (ancestor of mankind). The correspondence, although confined to Germanic and Indo-Iranian, appears both phonologically and structurally sound.

The story of the Germanic *Mannus* is recorded solely by Tacitus (*Germania* 2) who relates how the ancestor of the Germans was Tuisto 'Twin' who had a son *Mannus* 'Man' who then begot the three primary Germanic tribes, the Ingvaeones, the Herminones and Istaevones. In the Old Indic account, Vivásvat couples with Savarṇā 'Same Looks', a "double" of his wife Saraṇyū, and begets *Mánu* 'Man'. He then goes on to father Yama 'Twin', the ancestral figure of all mortals. *Mánu* also initiates sacrifice and human laws, the Law of Manu. Structurally, both tales relate the foundation of human society which is brought into being when a primeval *Man (*Mannus*, *Mánu*) sacrifices his *Twin (*Tuisto*, *Yamá*).

See also COSMOGONY; DIVINE TWINS; MAN. [J.P.M.]

MAPLE

***kléinus** (gen. ***klinóus**) 'maple (*Acer* spp.)'. [*IEW* 603 (*kleno-); Fried 64–69]. From *kléinu-: OE *hlīn* 'maple', OHG *līn-boum* 'maple-tree', Lith *klēvas* ~ *kliāvas* 'maple', Latv *kļavs* 'maple' (Baltic < late Proto-Baltic *klièva- < earlier *kleiva-, from *kleinva-?); from *klinu-: ON *hlynr* (< Proto-Gmc *hluni- by metathesis from *hlinu-) 'maple', Rus *klën* (< Proto-Slav *klinŭ-) 'maple', Maced (Hesychius) κλινό(σ)τροχος 'kind of maple'. Perhaps Grk γλῖνο- '(a kind of) maple' (perhaps = *Acer sempervirens [aka A. orientae* or *A. creticum]*) belongs with *kléinu-, though the initial *g-* is not well-explained. Certainly a word of the northwest, possibly also of the center of the IE world.

***h₂ékr̥** (gen. ***h₂ékr(o)s** or **?*h₂ékn̥s**) 'maple (*Acer* spp.)'. [*IEW* 20 (*aker); Fried 64–69]. Lat *acer* (gen. *aceris*) 'maple', Dan *ær* (< Proto-Gmc *ahira-) 'maple', OHG *ahorn* (< Proto-Gmc *ahurna-) 'maple', Grk (Hesychius) ἄκαρνα 'sweet bay', ἄκαστος (< *ákarstos) 'maple', Hit *hiqqar-* '± maple'.

The maple, valuable for bowls and other wooden artifacts, was present throughout early IE times in much of Europe, with subgeneric diversification that, depending on the area, included the common, Norway, sycamore, and, in the Caucasus, the mighty maple. It is also known from southwest Anatolia. Consonant with this great spread and variety, there are two early names for this tree, which overlap in Germanic, where there is much botanical subspeciation as well. One of these names, *kléinus is reflected in Germanic, Baltic and many Slavic languages—all of which denote the 'maple'. Sometimes set here are the Celtic forms (OIr *cuilenn*, Wels *celyn(en)*) but these both mean 'holly' and the British Isles lies outside the native prehistoric distribution of the 'maple' and 'sycamore'.

The second name is reflected in Latin, Germanic, Greek, Hittite and probably Indic; one can posit a PIE *h₂eker- or *h₂ekern-, probably derived from the root for 'sharp', as in Lat *acer* (whence NE *acrid*). In the Germanic area, at least, the reflexes of this 'maple' name were probably used for the Norway or sharp-leafed maple, complementing the uses of the other term for other maples present. The second name, speculatively but probably, is related to an Old Indic (*R̥gvedic*) form *akrá-*. At first blush, this denotes something high that the sons of Aditi grew into, but closer analysis makes it likely that the Vedic poet, drawing on his cultural memory, meant that "the sons of Aditi grew upward like the mighty maples", which, as it happens, flourish in the central and eastern Caucasus near to where the ancestors of the Indic and Iranian speakers lived. It is possible that both maple forms go back to a single PIE **kR-n-, but this is highly conjectural.

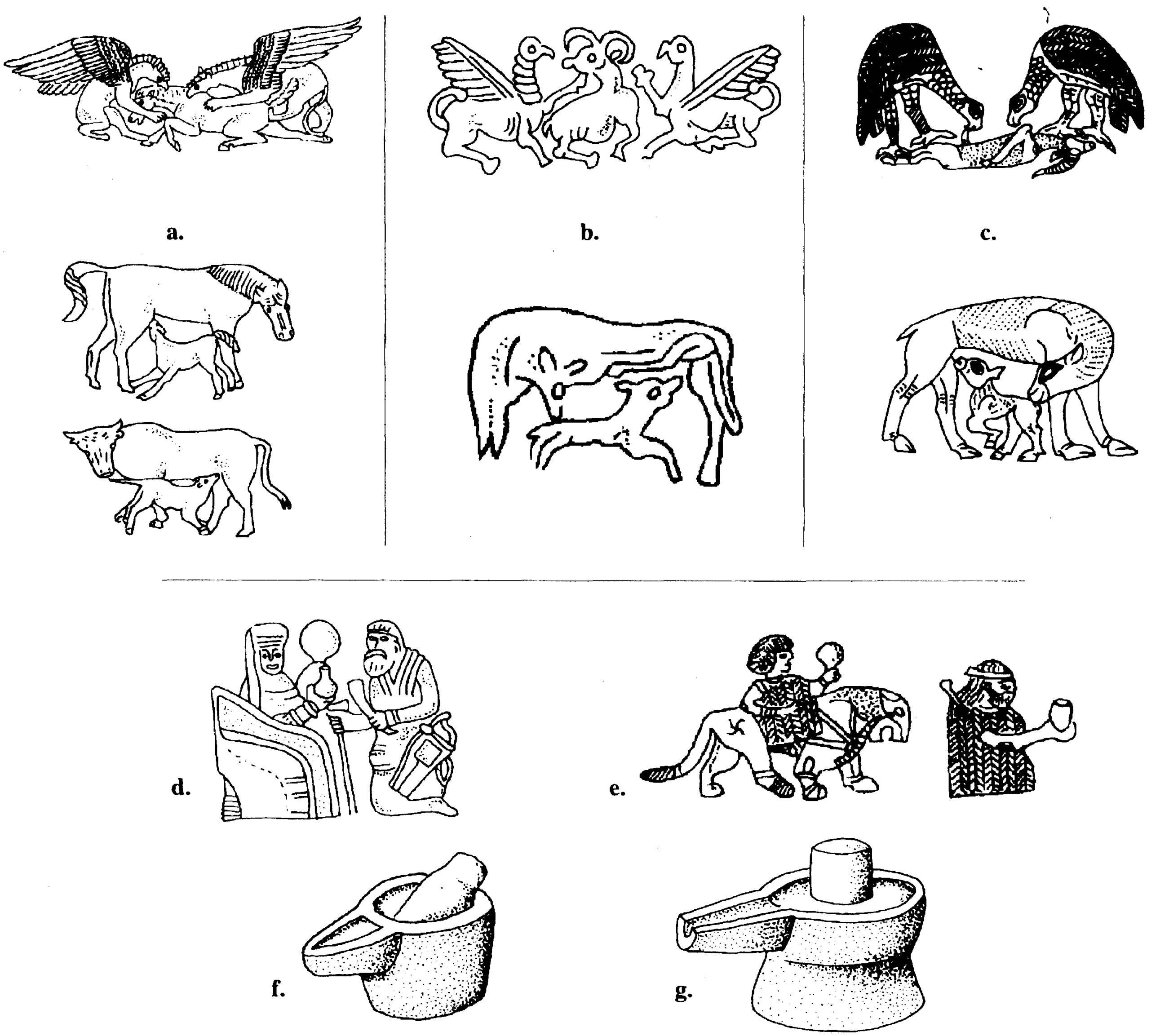
See also TREES. [P.F., D.Q.A.]

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MARLIK

This Iranian cemetery, dated to the mid second millennium BC, is situated near the Caspian Sea. It yielded funeral altars and fifty-five burials in stone lined chambers with a wide range of gifts of bronze and gold, including figures, vessels, weapons and horse-gear. Many of the objects are regarded as prestige goods obtained from the western parts of the Near East. G. N. Kurochkin has proposed that the identification of



Marlik Torment and birth scene from a. Scythian burial at Tolstoy Mogila, Ukraine, b. Mitanni glyptics; c. golden bowl from Marlik; Mirror scene from d. Scythian ornament, e. Golden bowl from Hasanlu; f. Ritual spouted mortar from Marlik; g. Ritual mortar from modern Hindu shrine.

the Indo-Aryans in this region would be secured if one can find evidence for the horse-drawn chariot, widespread trading relations, the presence of typical Hurrian goods (as the basic language of the Mitanni was Hurrian), and elements typically displaying Indo-Aryan motifs. He has attributed Marlik to the Mitanni (it contained seals typical of those found in the Mitanni region) as it met all of his criteria. The graves produced both the remains of horses and models of war-chariots which attest the specifically equestrian Indo-Aryan element in Mitanni. Of the ritual elements, Kurochkin cites the evidence for ritual mortars with spouts which he likens to instruments that might be employed in pressing the soma, the sacred drink of the early Indo-Aryans, and to similar devices found in contemporary Hindu shrines. Further afield, Marlik has yielded a golden bowl with scenes depicting the birth and torment of hoofed animals which corresponds to a widely attested artistic motif found not only on Mitanni seals but also among the Iranian-speaking nomads of the Eurasian steppe.

See also Hasanlu; Indo-Iranian Languages; Sacred Drink. [J.P.M.]

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MARRIAGE

ĝemh$_x$- 'marry (from the male point of view)'. [*IEW* 369–370 (**ĝem(e)-*); Wat 19 (**gemə-*); GI 775; Buck 2.33; Szem 20.3.1; BK 215 (**t̗'im-/*t̗'em-*)]. Grk γαμέω 'marry (of males)', γαμέομαι 'marry (of females)'. Derivatives: Lat *gener* (< **ĝemros* < **ĝemiros*) 'son-in-law', Grk γαμβρός (< **ĝm̥ros*) 'son-in-law', Alb *dhëndër* (Gheg *dhândërr*) 'groom', Av *zāmātar-* (< **ĝomh$_x$-ter-*) 'son-in-law', OInd *jā́mātar-* (< **ĝomh$_x$-ter-*) 'son-in-law', *jārá-* (< **ĝm̥h$_x$-r/lo-*) 'suitor'. This productive root would appear to be of PIE status. A possible continuation of this root in Pashto *zəman* 'payment of wages, stipend' has suggested that the underlying meaning of this word may have referred to the payment by the suitor for the bride of the bride-price. Others, however, have taken the semantics of this word (NGrk γαμάω is the obscene register of 'copulate') to suggest that it reflected the actual consummation of a marriage.

sneubh- 'marry (from the female point of view)'. [*IEW* 977–978 (**sneubh-*); Wat 62 (**sneubh-*); GI 663 (**(s)neub^h-*); Buck 2.33]. Lat *nūbere* 'marry (of females)'. Derivatives: OSC *snubiti* 'to pander', Grk νύμφη 'bride'. A word confined to the west and center of the IE world. If **sneu-bh-*, then perhaps related to **snusós* 'daughter-in-law' (< *'bride').

h$_2$u̯edh(h$_x$)- 'lead in marriage, marry (from the male point of view)'. [*IEW* 1109 (**u̯adh-*), 1115–1116 (**u̯edh-*); Wat 73 (**wadh-*); GI 658–660 (**Hwed^h-*); Buck 2.33; BK 474 (**wad-/*wəd-*)]. Wels *dyweddïo* 'marry', OE *weddian* (< **h$_2$u̯odh(h$_x$)ei̯e/o-*) 'marry' (> NE *wed*), OPrus *weddē* 'wed', Lith *vedù* 'lead, marry (of a man)', Latv *vedu* 'lead, marry'. Derivatives: Lith *vedẽklė* 'son's wife', Av *vaδū-* 'bride', OInd *vadhū́-* 'bride', *ūḍhā́* (< **h$_2$udh-teh$_a$-*) 'married woman, wife'. Perhaps ORus *nevěsta* 'husband's brother's wife, brother's wife, son's wife' with analogic lengthening from ORus *věno* 'bride-price'. Cf. OIr *fedid* (*DIL feidid*) 'leads', OCS *vedǫ* 'lead', ORus *voditi* 'get married', Hit *huttiye-* 'pull, drag', Av *vaδayeiti* 'pulls'. A productive root which is clearly old in this meaning among the northwest stocks and with the Indo-Iranian derivatives probably of PIE status.

Indo-Europeans did not possess a single term for marriage; instead, a number of different verbs were employed for male and female subjects and various aspects of the marriage process. The active verb **ĝemh$_x$-* is preserved only in Greek γαμέω 'marry (of male subjects)', but a variety of derivative nouns signifying males (cf Alb *dhëndër* 'bridegroom', Lat *gener* < **ĝemros* and OInd *jā́mātar-* both 'son-in-law') assures its Indo-European presence. The original connections of this root are doubtful. A relation to Lat *geminus* 'twin' and an original concept of 'pairing' has been suggested, but others have seen in Latin *geminus* a special development of the root **i̯em-* 'twin'; therefore, it is best to assume that 'marry' is the primary meaning. The widespread use of phrases with the concept 'lead' as in Lat *uxōrem dūcere* 'to lead a wife' in the sense 'to marry' and especially derivatives of the root **h$_2$u̯edh(h$_x$)-* 'lead' in this use, best seen in the English verb *wed* < **h$_2$u̯odh(h$_x$)ei̯e/o-*, confirms the Indo-European practice of virilocal post-marital residence and native idiom probably used causatives of the verb **h$_2$u̯edh(h$_x$)-* 'lead' in this sense. A second verbal root **(s)neubh-*, is seen in Lat *nūbere* 'marry', used of female subjects and RusCS *snubiti* 'pander'; it also provides the basis for a number of feminine nouns, e.g., Grk νύμφη 'virgin, bride' and Alb *nuse* 'bride' (< **(s)nubh-tih$_a$*, the same source as Lat *nuptiae* 'marriage rites'). The existence of this second verb for women points to the fact that the Indo-European couple had markedly divergent marital roles, although it would be unwise to assume that these were necessarily those of dominance and subservience. In Albanian and South Slavic great families of the nineteenth century, elder females exercised considerable independent powers within the family. Younger females were certainly restricted in their decision making, but so too were younger males, who often possessed no private property beyond their clothing and weapons.

Eric Hamp has suggested that we can recover (at least) four terms relating to the institution of marriage in PIE. The well-attested root **perḱ-* (~ **preḱ-*) 'ask, beg', also carries the specific meaning of 'initiate a proposal of marriage', e.g., Lat *procus* 'wooer', Lith *peršù* 'propose in marriage', Arm *harc'anem* 'ask', *harsn* 'bride'. This would be followed by the exchange of presents, the **u̯edmo-* 'bride-price'. As part of the wedding the bride would be literally led away into matrimony, i.e., **h$_2$u̯edh(h$_x$)-* 'lead (into marriage)'. Finally, he argues that **ĝemh$_x$-* is more precisely translated 'consummate a marriage' which may well explain the particular bias of this word towards males in the various IE stocks (in a central and eastern dialect area we can also reconstruct **i̯ébhe/o-* 'copulate', a semantic specialization of **i̯ébhe/o-* 'enter' preserved in Tocharian and Anatolian).

Types of Marriage

The system of analysis applied to IE mythology has also been extended to the structure of IE marriage institutions, particularly in Roman and Old Indic traditions. Georges Dumézil noted that the eight types of marriage listed in early Indic traditions can be divided into essentially three basic social types.There were four associated with the priestly function (*brāhma* [< 'priest'], *daiva* [< 'of the gods'], *ārṣa* [< 'priest'] and *prājāpatya* [< 'of Prajāpati']) that were surrounded with religious ceremony and sanction and associated with the priest class. Dumézil found their correspondence in the Roman *cōnfarreātiō* the marriage union of priests which was sanctioned by the highest priest and held before Jūpiter. In ancient India the warrior function found its expression in the marriage types knows as *gāndharva*, the co-habitation of man

and women without ceremony and *rakṣasa* 'marriage by capture'. The Roman equivalent was held to be the *ūsus* which, like the *gāndharva*, involved co-habitation for a year preceding the official marriage bonds. The third or fertility function in India was marked by *āsura* which involved the purchase of the wife; it was specific to the third estate *vaiśya* and the lowest estate, the *śūdra*. In ancient Rome it found its parallel in the *coemptiō*, marriage by purchase. Similar extensive systems of marriage can be found in Ireland where they descend from legitimate marriages sanctioned by both families to marriages based on cohabitation (cf. the Old Indic *gāndhara* and Lat *ūsus*) and marriage by capture (OIr *lānamnas ēicne*).

The range of types of marriage within different IE societies tends to be large (and on a world-wide ethnographic sample would be extended many times over). A number of early IE societies exhibit sufficient evidence to presume formal arrangements of marriage involving the payment of a 'bride-price', a word reconstructible to PIE. The forcible abduction of the bride (which may include the bride's consent in the absence of her parents') is so widely seen in both the early literature and the ethnographies of the IE (and other) peoples that it would be difficult to deny its possible existence in PIE even if there are no specific lexical grounds to demonstrate it. GI have suggested that the verbal root *$*h_2$u̯edh(h_2)-*, commonly translated as 'lead away (in marriage)', expressed rather greater force and that abduction may have been the earliest form of marriage. As some institution of marriage is likely to have long predated the form of the PIE community, it is much more likely that marriage by abduction, still practiced into the present century, was always an option but hardly the earliest known in PIE society. We should be cautious about trying to assign a single type to the speakers of the proto-language which, if like their later descendants, probably themselves recognized a considerable variety of marriage forms.

Cross-Cousin Marriage

One specific form of marriage has been attributed to PIE antiquity: cross-cousin marriage where the preferred marriage partner is sought with a cross-cousin, i.e., one who is related through a kin of different sexes (father's sister's son, mother's brother's son). In its simplest form, symmetrical cross-cousin marriage, a male in family A will invariably marry the sister of a male in family B who in turn will marry A's sister. This process may be continued for generations between the two families. Other variations, particularly popular among patrilineal groups, is to select by preference one's partner from the mother's line, i.e., matrilateral selection. The existence of cross-cousin marriage in PIE rests largely on certain solutions to the problem of *$*h_2euh_2os$* 'grandfather' and **népōts* 'grandson'. It has been argued that the best way to explain why the word for 'grandfather' should also yield derivative meanings for 'mother's brother' (and conversely why 'grandson' should also yield 'nephew', perhaps via 'sister's son') is that the terms were created in a system of cross-cousin marriage. In this way one would simultaneously be the grandfather (father's father) of ego and his mother's mother's brother; the term for 'grandfather' would then be employed to derive another term for the 'mother's brother', i.e., the 'little grandfather' (cf. Lat *avunculus* 'mother's brother' from *avus* 'grandfather'). This explanation has been embraced by GI who regard the dualism of two intermarrying families as one of the underlying frameworks for the binary opposition in IE mythic structures. As the basis of the problem has not been firmly established, i.e., the validity of projecting the different semantics to the PIE forms, the ascription of cross-cousin marriage to the PIE speakers (among probably other forms of marriage as well) may well be possible but is hardly required by the existing evidence. Against such a proposition also is our failure to reconstruct specific terms for the cross-cousins in PIE, the paucity of examples of this type of marriage occurring within the individual IE stocks (and where it does occur such as India, it is largely confined to the east and south, i.e., those areas where we have the greatest reason to suspect a non-IE substrate), and, finally, where it does occasionally occur, it does so in the very stocks which do not show evidence of the shift from 'grandfather' to 'mother's brother' or the nepotic skewing rule.

See also BRIDE-PRICE; HUSBAND; KINSHIP; SEXUAL ORGANS AND ACTIVITIES; WIFE. [M.E.H., J.P.M.]

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MARROW

mosghos 'marrow, brain'. [*IEW* 750 (**moz-g-o-*); Wat 43 (**mozgo-*); GI 713]. ON *mergr* 'marrow', OE *mearg* 'marrow' (> NE *marrow*), OHG *mar(a)g* ~ *mar(a)k* 'marrow', OPrus *musgeno* 'marrow', Lith *smāgenės* 'marrow', *smēgenys* 'brain', Latv *smadzenes* 'brain, marrow', *smedzene* 'brain', OCS *mozgŭ* 'brain, marrow', Av *mazga-* 'marrow, brain', OInd *majján-* (for expected **majjhán-*) 'marrow'. Widespread geographically, at least a late PIE word for 'marrow'. See also **móstr̥* 'brain, marrow'.

See also ANATOMY; BONE; BRAIN. [D.Q.A.]

MARSH

séles- 'marsh'. [*IEW* 901 (**selos-*); Wat 57 (**sel-es-*)]. Grk *ἕλος* 'marsh, meadow', Av *Haraxvatī*, OPers *Harauvati*, OInd *Sárasvatī* (< **saras-vant-* 'marshy') all river names, *sáras-* 'lake, pond'. Perhaps here Wels *heledd* (< **sel-i̯eh$_a$-*), *hêl* 'meadow along the side of a river'. Clearly of some IE antiquity.

pen- 'water', ***poni̯om*** 'swamp'. [*IEW* 807–808 (**pen-*);

Wat 49 (*pen-)]. MIr *en* (< **peno-*) 'water', *enach* 'swamp', Gaul (acc.) *anam* 'swamp', ON *fen* (< *fanja-* < **ponio-*) 'swamp', OE *fenn* 'moor' (> NE *fen*), OHG *fenna* 'swamp', Goth *fani* 'swamp', OPrus *pannean* (< **panja-*) 'peat-bog', Lith *paniabùdė* 'toadstool', Latv *pane* 'liquid manure, slurry', *peņava* 'puddle'. Distribution indicates a "northwesternism".

***h_xih_x-lu-** 'mud; swamp'. [*IEW* 499 (**īl-*)]. Latv *īls* 'pitch dark', OCS *ilŭ* 'mud', Rus *il* 'mud', *il* ~ *íla* 'loam', Grk *ἰλῦς* 'mud, swamp'. The analysis must yield *h_xih_x-*lu-* as *ih_x- would probably have produced Grk **i̯V-*; Slavic shows *-u-* while Grk -uh_x-. At least a late isogloss in IE.

?*penk- 'damp, mud'. [*IEW* 808 (**pen-ko-*)]. MIr *ēicne* (< **penk-īn-io-*) 'salmon', OE *fūht* (< **funχtja-* < **pn̥kt-io-*) 'wet', OHG *fūht* 'wet', OInd *páṅka-* 'mud, mire'. These connections are no more than a possibility; the underlying form may contain the root **pen-* 'water, mud, marsh'.

See also DIRT; LAKE; WET. [R.S.P.B.]

MARTEN

?*bhel- '± marten' (or '± wildcat'). [*IEW* 119]. Wels *bele* 'marten', Lat *fēlis* 'small carnivore, e.g., marten, polecat, wildcat'. Possibly a word of the far west of the IE world, with a meaning much as is attested by Lat *fēlis* (cf. NIr *cat crainn* 'marten' [literally 'tree-cat']). A possible Indic cognate *bhárūjī* (some kind of unidentified animal) might suggest the center of the meaning was 'wildcat' rather than 'marten'. The current distribution of both the pine (*Martes martes*) and beech marten (*Martes foina*) embraces almost all of Europe with the exception of southern Iberia and the Aegean. There is also evidence of the pine marten in Iran while the beech or stone marten is also known in Iran, Afghanistan, Baluchistan and northwest India. Martens are known from prehistoric sites from Britain to the Crimea and in the Near East. In the Baltic region there is evidence for selective hunting of marten where large numbers are recovered on sites in Estonia and Latvia while some sites of the Tripolye culture also show more than occasional numbers of marten. It is also known from riverine sites of the steppe region. The linguistic evidence notwithstanding, the earliest Indo-Europeans would have known the marten, probably both the pine marten and the beech marten.

See also CAT; MAMMALS; POLECAT; WEASEL. [D.Q.A., J.P.M.]

MASTER, MISTRESS

The words gathered here appear to be those used to describe the first level of leadership in Indo-European society, the master of a particular household.

***pótis** 'husband'. [*IEW* 842 (**poti-s*); Wat 52–53 (**poti-*); GI 661 (*p^hot^h-); Buck 2.31; Wordick 214–215]. Bret *ozah* (< **potis stegesos*) 'husband, master of the house', Lat *hospēs* (< **ghos(t)-pot-*) 'host', Goth *bruþ-faþs* 'bridegroom' (whence Alb *fat* 'husband'), Lith *pàts* 'husband, self', Latv *pats* 'master of the house, self', Rus *gospódĭ* (< **ghos(t)-pot-*) 'host', Alb *zot* (< **džopt-* < **± wīsā + *pot-*) 'master of the house', Grk *πόσις* 'husband', Hit *pat* 'self', Av *paiti-* 'husband', OInd *páti-* 'husband, master', TochA *pats* 'husband', TochB *petso* 'husband'. Distribution clearly indicates PIE status.

***pot-nih$_a$-** 'mistress, lady'. [*IEW* 842 (**potnī*); cf. Wat 52–53 (**poti-*); GI 661 (*$p^hot^hn\bar{\imath}$); Buck 2.32; Wordick 196–197]. OPrus (acc. sg.) *waispattin* 'wife, mistress', Lith *viešpatni* 'lady', Myc *po-ti-ni-ja* 'lady, wife, mistress', Grk *πότνια* 'lady, wife', Alb *zonjë* (< **doptnjā-* < **u̯isā + *potnjā*) 'lady, wife', Av *-paθnā-* 'lady', OInd *pátnī* 'lady, wife'. Although clearly derived from the masculine form above, the distribution suggests that it is likely to be old in IE as well.

Terms for 'husband' and 'wife' often reflect the general Indo-European terms 'man' and 'woman', but the terms **pótis* and *$potnih_a$-, 'lord' and 'lady' seem to have functioned in this sense, although when combined with the feminine noun **u̯iḱ-* 'settlement, homestead' the terms come to assume a quasi-political sense. It is perhaps significant that **pótis* has a persistent feminine counterpart in the form of *pot-nih_a- with a non-productive suffix. Both terms are probably related to a root for 'power', PIE **pot-*, and referred to the control over the household. It is possible that the feminine did not refer to the wife of the **pótis* but his mother as was still the case of Albanian *zonjë* 'lady' the feminine of *zot* 'lord' even in the last century

***dom(h$_a$)u-no-s** 'master'. [*IEW* 198–199 (**dem-*); Wat 11 (**dem-*); GI 646]. Lat *dominus* 'master of the house', Lith *namūnaĩtis* (< **namunas* < **damunas*; cf. Av *nmāna-* 'house' for the dissimilation) 'son of the proprietor', OInd *dámuna-* 'master of the house'. A common *-no* derivative for leader of the house, parallel to such constructions as Proto-Gmc **þeuđanaz* 'leader of the tribe' (OE *þēoden* 'chief of a tribe, ruler', Goth *þiudans* 'ruler') or Grk *κοίρανος* (< Proto-Grk **korjanos*) 'leader of the army' is inferred from the presence of an identical derivative of the archaic *u*-stem noun 'house' even after the replacement by thematic nouns was complete in Baltic and Indic and the *u*-stem remained only vestigially in Latin.

***dems-pot-** 'master of the house'. [*IEW* 198–199 (**dem-*); Wat 11 (**dems-pot-*); GI 646; Buck 7.12, 7.122; BK 133 (**t'im-/*t'em-*)]. Grk *δεσπότης* 'master, lord, owner', Av *dəng pati-* 'master, lord, ruler', OInd *dám-pati-* 'master, lord, ruler' (in the dual 'heads of the household, husband and wife'). Notionally the same as the previous entry, i.e., 'ruler of the household', but limited to languages of the southeast. Still, the archaic shape of the compound virtually assures its presence in this dialect area of late PIE. An originally wider distribution may be suggested by Bret *ozah* (< **potis stegesos*) where we have the same semantic combination but with a newer word for 'house'.

?*$h_1esh_2$ós 'master', ***$h_1esh_2éh_a$-** 'mistress'. [cf. *IEW* 342 (**esu-s*); GI 400–401; BK 434 (**asʸ-/*əsʸ-*)]. OLat *esa* 'mistress', Lat *erus* 'master of the house or family, lord, owner', *era* 'mistress, lady, owner', Hit *ishā-* 'master, lord, owner; mistress, lady', *ishassara-* 'lady, mistress'. This Latin-Hittite connection has been affirmed and denied in about equal

measure. In its favor are the almost exact semantic equation and the possibility of exact phonological equation. Adding weight to the latter point is the fact that Hittite has very few end-stressed thematic nouns, this one and *arā-* 'companion' and *yukan* 'yoke'. Since both of the latter are unequivocally inherited from PIE it is likely that *ishā-* is as well. Arguing against the equation is the fact that there is no obvious root etymology: **$h_1$es-h_2-ós* 'one who is' from **$h_1$es-* 'be' does not explain the *-h_2-* and relating it to **$h_1$ésh$_2$r̥* 'blood' as 'one of the blood' does not explain the semantics.

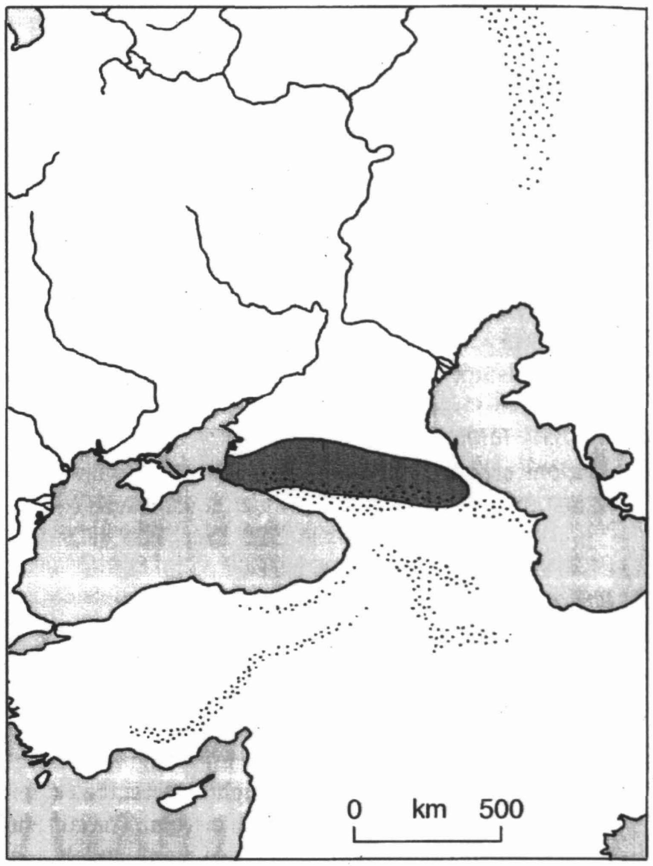
See also HOME. [M.E.H., D.Q.A.]

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MAYKOP CULTURE

The Maykop culture, which takes its name from the famous royal burial of Maykop, was the major early Bronze Age culture of the north Caucasus. Its area of distribution extended from the Taman peninsula in the west across the plains and valleys of the north Caucasus as far as Dagestan. The Caucasus mountains served as a natural barrier to its south while to its north lay the steppelands which served as the home of the Novotitorovka and Yamna cultures. The center of Maykop development is generally situated in the Kuban region. The dates of Maykop are still a question of dispute but it falls very broadly within the range *c* 3500–2500 BC.



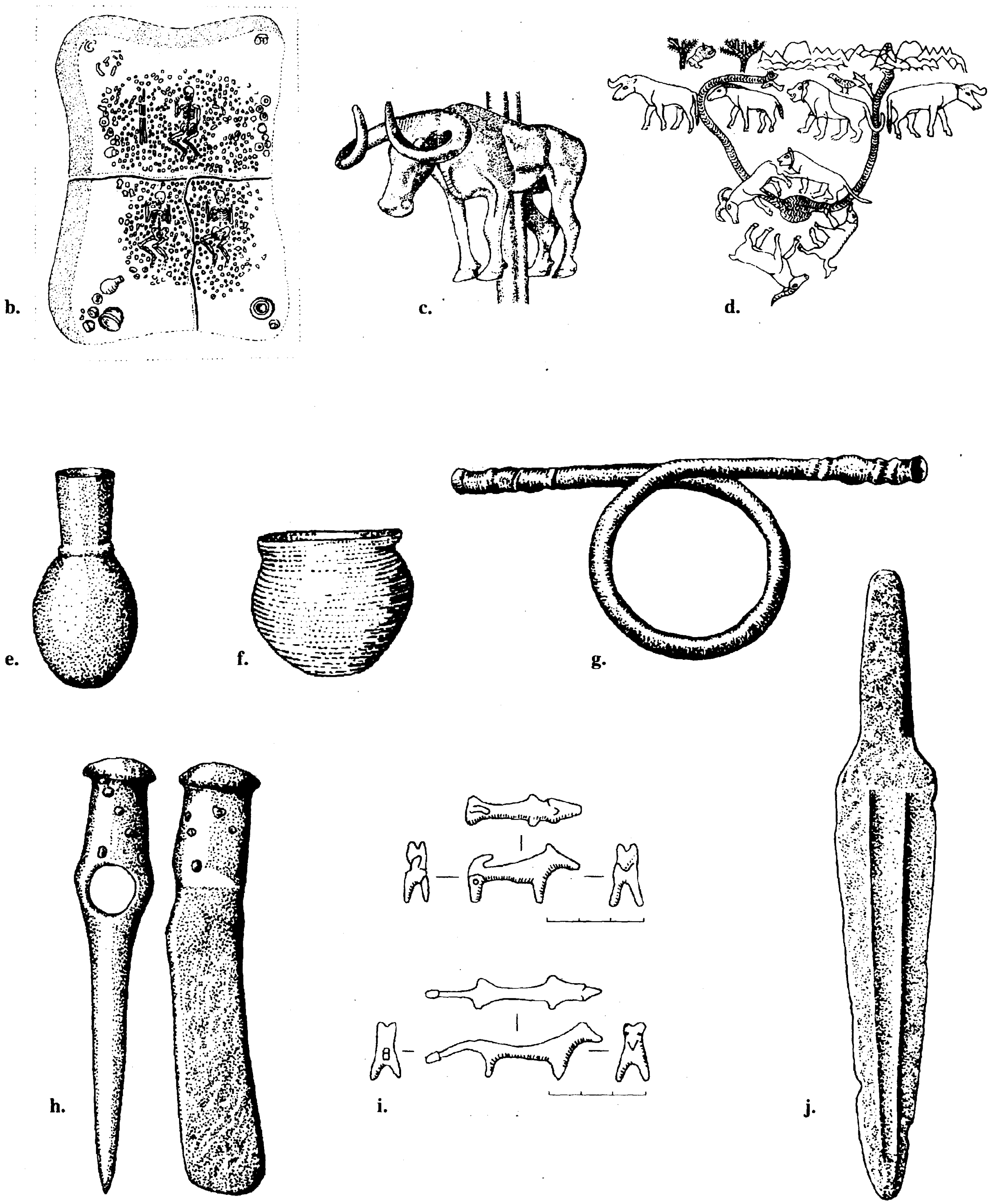
Maykop a. Distribution of the Maykop culture.

There are about thirty known settlements belonging to the Maykop culture. They tend to be on the order of one to two hectares in size, the largest reaching some ten hectares. Some of the settlements such as Meshoko were defended by stone walls (here 2 m high and 4 m thick). Settlements reveal semi-subterranean houses, measuring *c* 10 by 5 m arranged in small villages of seven to ten houses. Circular structures are also found and may be the result of influence from the Kuro-Araxes culture. Stockbreeding is indicated by the remains of pig, cattle, sheep, goat and horse while hunting (red deer, wild pig, etc.) played a minor role in the economy.

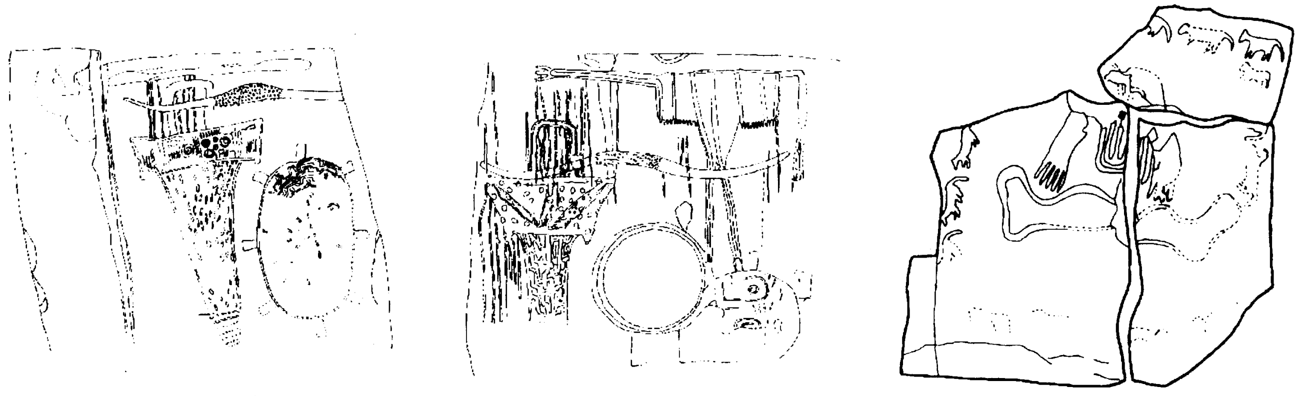
Maykop is known primarily for its burials. The standard burial rite was inhumation in a pit (which might be stone lined and timber roofed) which was surrounded by a stone cromlech (ring) and covered by a kurgan (tumulus). The central chamber at Maykop was very large (it measured 5.3 x 3.7 x 1.4 m in size). Other Maykop burials were of similar dimensions (e.g., the kurgan at Nartan was 100 m in diameter and stood some 13 m high; its burial chamber was 7 x 4 m in size). Later Maykop burials tended to employ a stone cairn in their construction. Stone cists were also utilized. When not found in a destroyed state, burials tend to be flexed on their sides.

Burial goods in large amounts have been recovered from a number of the Maykop kurgans. A wide range of stone tools and weapons (axes, arrows, spears, knives) as well as ceramics are recorded but the major interest lies in the abundance of metal artifacts which is almost unprecedented for its period. Bronze was employed in axes (over forty known), awls, chisels, daggers (about a hundred are known), what have been presumed to be psalia (horse bridle-pieces) and other tools while vessels were also manufactured of bronze as well as gold and silver. The gold and silver vessels are noted for their artwork and attest external influences (Iran, Mesopotamia, Anatolia, the Aegean are all cited) as well as local creations.

The Maykop culture impinges on various solutions to the IE homeland problem. Its ethnic identity is entirely unknown although it is often assumed to be Indo-European according to some models of IE origins. For example, wall paintings from a late fourth millennium BC burial at Klady have been interpreted in the light of Indo-European or Indo-Iranian religion. Within the Kurgan theory, Maykop is used as a covering term for not only the Maykop cultural remains of the north Caucasus but also the Lower Mikhaylovka and Kemi Oba cultures north of the Black Sea. Some archaeologists also suggest that the Maykop culture had genetic links with the TRB, Globular Amphora and Corded Ware cultures and thus represented an extensive cultural region from the Baltic to the Caucasus. Such a theory, it must be emphasized, is highly speculative and controversial although there is a recognition that this culture may be a product of at least two traditions:



Maykop b. Plan of the Maykop tomb; c. Aurochs standard; d. Decoration on silver vessel; e. Gold vessel; f. Clay pot; g. Horse cheek-piece (psalia); h. Bronze "battle-ax"; i. Bronze and silver dogs from Klady; j. Bronze dagger. The metal dogs have been compared to the two differently colored dogs of Yama, the Vedic lord of the dead.



k1. **k2.** **k3.**

Maykop k. Wall decorations from Novosvobodna tomb at Klady. The bow depicted in k1 and k2 has been seen as symbolic of the death of a king, e.g., in Vedic tradition the successor to a dead *kṣatriya* would take the bow of the deceased in his hand as emblematic of the succession of power. The horses shown in k3 have been interpreted as the procession of horses that would encircle (counter-clockwise) the grave of the deceased. Finally, the seated figure with the grill-like visage has been interpreted as Vāyu/Vayu, the Indo-Iranian god of the wind and death, whose baleful glance could cause death.

the local steppe tradition embraced in the Novosvobodna culture and foreign elements from south of the Caucasus which can be charted through imports in both regions.

That Maykop was the recipient of artistic influences from the Near East might also be employed to explain the occasional appearance of what have been presumed to be Near Eastern (largely Semitic) loanwords in Indo-European. Alternatively, in the theory of Indo-European origins proposed by T. Gamkrelidze and V. Ivanov, the Maykop culture may be presented as a movement of IE-speaking groups from a homeland in Armenia-eastern Anatolia northwards to a secondary "European" homeland in the north Caucasus. But it should also be observed that the Maykop culture lies within the present distribution of the non-IE north Caucasian languages and that its ascription to the early Indo-Europeans is merely an assumption by some scholars while others prefer to attribute the Maykop culture to non-IE groups of Anatolia such as the Hatti or Kaska.

See also Kemi Oba Culture; Kurgan Tradition; Lower Mikhaylovka Group. [J.P.M.]

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MEASURE

med- 'measure, weigh'. [*IEW* 705–706 (**med-*); GI 711 (**met'-*); Wat 39 (**med-*); Buck 4.87; BK 527 (**mat'-/ *mət'-*)]. OIr *midithir* 'judges', Lat *meditor* 'mediate', ON *meta* 'reckon, estimate', *met* 'weight', OE *metan* 'measure, mete out' (> NE *mete*), *ge-met* 'measuring', *metian* 'weigh, consider', OHG *mezzan* 'measure, compare, evaluate', *mez* 'measure', *mezzōn* 'measure, compare, evaluate', Goth *mitan* 'measure', *mitōn* 'plan', Grk *μέδομαι* 'provide for, be mindful of', *μήδομαι* 'intend; plot, contrive', Arm *mit* 'thought, reason'; with an even more specialized meaning (< *'± judge well') we have Lat *medeor* 'heal, cure', *medicus* 'doctor', Grk ***Μῆδος*** a healing divinity, Av *vī-mad-* 'healer', *vi-maδaya* 'act as a healer'. Cf. further ON *mjǫtuðr* 'creator, god' (< *'dispenser'), OE *meotod* 'creator, god'. Widespread and old in IE.

méh$_1$tis (gen. ***mh̥$_1$téis***) 'measure'. [*IEW* 703 (**mē-*); Wat 39 (**mē-*); Buck 14.11; BK 408 (**miħ-/*meħ-*)]. Lat *mētior* 'measure', OE *mǣþ* 'measure', Alb *mot* 'season, rainstorm', *mat* (< **mh̥$_1$ti̯-e/o-*) 'measure', Grk *μῆτις* 'plan', Av *zastō.miti-* 'having the measure of a hand', OInd *máti-* 'measure'. From **meh$_1$-* 'measure', other derivatives of which are OE *mǣl* 'measure, mark, appointed time, (time for a) meal', Goth *mēl* 'time', Hit *mēhur* 'time', Av *mā-* 'measure', OPers *ā-māta-* 'grand, elegant, approved', OInd *mímāti* 'measures'. Sufficiently widespread to guarantee PIE status. Perhaps ultimately related to **meh$_1$(i)-* 'grow'.

See also Medicine; Moon. [D.Q.A.]

MEAT

mé(m)s (gen. ***memsós***) 'meat'. [*IEW* 725 (**mēmso-*); Wat 41 (**mēms-*); GI 604 (**mēms-o-*)]. Goth *mimz* 'meat',

OPrus *mensā* 'meat', Lith *mė̃sà* 'meat', Latv *mìesa* 'meat', OCS *męso* 'meat', Alb *mish* 'meat', Grk *μῆνιγξ* 'skin, meninges', Arm *mis* 'meat', OInd *mās* 'meat', *māṃsá-* 'meat', TochB *mīsa* (pl.) 'meat'. The derivative *mē(m)s-ró/eh$_a$- is seen in OIr *mīr* 'bit (< *'a bit of meat'), share, portion', Lat *membrum* 'member' (< *'part of carcass'), *membrāna* 'membrane', Rus *mjazdrá* 'meat side of skin'. Both widespread among the IE languages and archaic in morphology. Certainly the PIE word for 'meat'.

See also ANATOMY; FOOD. [D.Q.A.]

MEDICAL GOD

The structure of IE medicine appears to reflect the tripartite social divisions of society and just as there are three classes of medical practitioners attending three different socially-associated types of diseases and injury, so also were deities arranged to both inflict and lift pains appropriate to each class. In Vedic India, for example, Varuṇa, the deity associated with the priestly class and the one charged with the maintenance of order, punished trespassers of his realm with bonds, identified as *jalodararoga-*, i.e., dropsy ('water-belly'), which, appropriately enough to his social role, could only be lifted by prayers. The deity assigned to the warrior class who was concerned with disease was the archer Rudra who inflicted disease in the form of fevers, coughs. Finally, the Aśvins, the Divine Twins who were linked to the third estate, were the general practitioners who renewed sexual vigor, healed broken limbs, and were generally concerned with the restoration of health. The etymology of their Iranian counterparts Haurvatāt 'wholeness, health' and Amərətāt 'long life' also suggests such concerns and as these two were particularly associated with water and plants respectively, one might conclude that potions and healing herbs were the particular stock of the Indo-Iranian Third Function medical deities.

Possible comparative data derives from Greek mythology where Apollō, like the Indic Rudra, is both an archer who inflicts disease from afar (*Iliad* 1.48-52) and is invoked as a healer. Moreover, both share the same and peculiar association with rodents; Rudra's animal was the '(rat) mole' (*ākhú-*) and he was himself described as *Vaṅkú-*, the 'tottering one' while Apollō shared the epithets *Smintheus* (the rat god) and *Loxias* (the one with the oblique gait). A dualism arises in that the name of Apollō's son, the healer Asklēpios, derives from *σκάλοψ* 'blind rat, rat mole' and his sanctuary at Epidauros was built to resemble a molehill while Rudra's son Gaṇeśa, beside his typical association with the elephant, was also connected with the rat. All of this is at least suggestive of a mythic complex involving a disease-dealing or -healing archer god who may have been reflected as the disease-ridden rat or the more beneficent (healing) mole. Although Asklēpios is credited with the ability to heal by spells, surgery and herbs, thus matching the three medical "functions" recorded in Iranian tradition, Jaan Puhvel has suggested that this correspondence could have resulted from a borrowing of concepts from Persia where Greek physicians were in attendance.

Another possible mythic reflection of a healing deity may be seen in the Indo-Iranian Aryaman-Airyaman and the Irish Eremon (< *h$_4$erio̯-men-). The Vedic Aryaman is generally associated with the institution of marriage, the building of roads and paths, and to some extent also healing. This association is better reflected in his Iranian guise where Airyaman who, in the *Avesta* (*Vīdēvdāt* 22), institutes the decontamination ritual of the *gaomaēza-*, where the patients bathed in furrows filled with the urine of bulls and water. In Irish mythology, Eremon, like Aryaman, provided wives, built causeways and roads, and during his reign, one of his allies was healed from poisonous darts by bathing in furrows filled with milk, another bovine liquid to parallel that of the *gaomaēza-*.

See also MEDICINE. [J.P.M.]

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MEDICINE

There is both lexical and mythological evidence that permits us to reconstruct at least some of the diseases and procedures of cure of the earliest Indo-Europeans.

Diseases

Modern classification of diseases by topography, anatomy, physiology, etc., are probably too specific to be employed against the evidence of lexical reconstructions for the Indo-Europeans. Other than the more obvious physical defects such as blindness, most of the terms relating to disease that we can reconstruct seem to be confined to skin diseases which would not necessarily have led to death, a word for which the IE vocabulary produces abundant cognate sets, e.g., *mer- 'die' and a large series of derived forms (*mr̥tós 'dead; mortal', *mr̥tís 'death', *mr̥tóm 'death', *móros 'death'), *neḱ- 'perish, die' (and *néḱus 'death; dead'), and later (?) regional terms such as *dhg^{w}hei- 'perish' and *dheu- 'die'. The oldest term for 'sickness' or 'to be sick' is *su̯ergh- 'sickness, be sick' while other terms, less well attested, such as *h$_1$ermen- 'sickness' and *seug- 'be sick', are also found. There are also a series of references to pain and suffering which suggest either an original or derived medical basis, e.g., *seh$_4$i- '± be angry at, afflict' which yields such terms as OE *sār* 'bodily pain, wound, sore' (> NE *sore*) and Grk **αἰμωδία** 'kind of tooth-ache'; *k^{w}ent(h)- 'suffer'; *h$_a$éghleh$_a$- 'affliction'; *h$_a$énĝhes- '± suffering, grief, fear' which carries connotations of 'constriction'; *péh$_1$mn̥ 'misfortune, suffering' and *h$_a$em(h$_x$)-ī-u̯eh$_a$- 'suffering'.

Evidence for skin diseases and swellings can be found in a series of words such as *dedrús 'tetter, skin eruption, leprosy', *kreup- '± rough, scabby', *kl̥nos 'callosity', *u̯r̥h$_x$os 'pimple', *u̯orh$_x$do- ~ *u̯erh$_x$deh$_a$- 'wart', *h$_1$élḱes- '± ulcer', and a number of terms for 'pus' or 'suppurating wound'; *púh$_x$es- 'putrefaction, pus', *su̯eros '(suppurating) wound', *u̯eh$_a$t-

'(suppurating) wound'. More general wounds are attested in *u̯olno/eh$_a$- (~ *u̯orno/eh$_a$-) '(bloody) wound', *$h_a$éru(s)- 'wound', and *pelos- 'wound'.

Finally, among the physical ailments, there are several terms relating to the eyes, e.g., *$h_a$endhós 'blind', *kolnós 'one-eyed', and *káikos 'one-eyed, cross-eyed'. Hearing and speech defects are seen in *bhodh$_x$rós 'deaf' and *mū- 'dumb'. Other physical disabilities are seen in *mendo/eh$_a$- '± (bodily) defect', *lord(sk̑)os 'crooked of body', *(s)keng- 'limp' and *(h_1)n̥g^{w}én- '± (swollen) gland'.

Cures

There are both general terms for curing an individual and occasionally suggestions as to how this might have been done. For example, *$h_{1/4}$eis- 'refresh (using a liquid), renew the strength of' yields specifically medicinal connotations in Grk *ἰάομαι* 'heal, cure' and *ἰατρός* 'doctor', and OInd *íṣ-kṛti-* 'healing', while *i̯ak(k)- '± cure, make well' provides another cognate set. The specific medical use of *med- 'heal, cure', a root which is widely enough attested, is seen only in Italic and Iranian and is derived from a base with the meaning of restoring a particular situation to normal by following a customary set of practices. A possible late term for more direct medical treatment may be found in *bher- '± cure with spells and/or herbs' which is limited to Baltic, Albanian and Greek. There is also the verbal root *$h_3$eng^w- 'anoint (with salve), (be)smear'. The expected result of such remedies would be to render the patient healthy again, i.e., *kóh$_a$ilus 'healthy, whole, complete' or *sólu̯os 'whole'.

Sick Maintenance

The care of the injured in many of the world's systems of traditional law requires that the individual who inflicted an injury also be responsible for the recovery of the injured, either by undertaking the nursing himself or employing a medical practitioner to effect the cure. It has been argued that there are both structural and lexical reflections of such a system in Indo-European, specifically in the legal texts of both the early Irish and the Hittites. The evidence from Hittite (KBo 6 2 1 16-19) states that if someone injures another, he shall take care of him and provide a replacement for him in his household until the injured party recovers. He shall also make a payment to the injured party and pay any necessary medical expenses. In the Old Irish legal tracts relating to medicine we find a similar system involving the injury of the individual and their sick maintenance, the substitution of the injured party during convalescence, and payment to the injured and for attendant medical expenses. The structural similarities, as Calvert Watkins argues, suggests an inherited expression of customary law from Proto-Indo-European. He also argues that there is some lexical support in that the Hittite term 'to take care of, perform sick maintenance', i.e., *saktāizzi*, is a denominative from an unattested *sakta- (< PIE *sokto-) which may also be reflected in OIr *socht* (< *soktos) 'stupor, silence'.

The Medical System

The tripartite or trifunctional conceptual system seen in other IE social behavior is also reflected in its medical system. The Iranian *Vidēvdāt* (7.44) lists three medical specialists: those who heal by the knife (*kərəto-baēšaza-*), those who heal by herbs (*urvarō-baēšaza-*) and, the most effectual, those who heal by spells (*mąθrō-baēšaza-*), where the three methods are associated with diseases and the appropriate medicinal cures of the warrior class (healing with the knife), the herder-cultivator class who would utilize herbs and other plants, and the priest class (healing with spells).

A parallel set of cognate medicinal lore is to be found in Old Indic tradition where the Aśvins (*RV* 10.39.3) are credited with curing blindness with spells, fractures with knives and emaciation with herbs. The evidence for tripartition is particularly strong in Indic mythology where the divinities Varuṇa, Rudra and the Aśvins have clearly defined spheres of disease and healing. Varuṇa, the god charged with maintaining religious order punishes transgressors with debilitating diseases, in particular dropsy (*jalodararoga-*), which can only be healed by prayers, the "tool" of the First Function. Rudra, known in Vedic texts as the 'first divine physician' also inflicts and cures disease. He is closely associated with Indra and the second or warrior estate of IE social tripartition and he inflicts disease with his arrows. In this and other features, he shares parallels with the Greek Apollō who, in the *Iliad* (1.50) also inflicts disease with his bow. Apollō is associated with the rat (*σμίνθος*) while Rudra is closely associated with the mole (*ākhú-*) as is also the case with Apollō's son Asklēpios (*σκάλοψ*). The third estate or function is connected with the Aśvins who undertake general curing, and who had a close link with healing waters and herbal cures.

Other than the parallels already mentioned, the archetypal Greek healer Asklēpios (Pindar's Third Pythian Ode 40-55) apparently heals spontaneous sores with incantations, weapon-inflicted wounds or injury from stone-throwing with external medications or incision, and fevers with potions, again reflecting both diseases and cures appropriate to the social tripartition of society. Parallels may also be adduced from Old Irish tradition where the physician Mīach (*Cath Maige Tuired* 33-35) restores a severed hand by incantation, he is then killed by his father's own sword stroke, and herbs subsequently grow out of his grave.

In addition to evidence for an underlying medico-religious system, there are occasional traces of common healing charms found widely throughout the IE area. In Old Indic tradition we find a charm in the *Atharvaveda* (4.12) for healing (a lame horse?) where marrow is to be put to marrow, skin to skin and flesh to flesh. In ninth to tenth century German tradition we find in the Second Merseburg charm the words by which various deities attempted to heal the sprain to Baldr's horse: *Ben zi bena, bluot zi bluoda, lid zi geliden, sose gelimida sin* ('bone to bone, blood to blood, limb to limb, so let them be joined') while the Irish physician Mīach (*Cath Maige Tuired* 34.135-136) attempts to rejoin the severed arm of Nūadu

with the incantation *ault fri halt di & fēith fri fēth* ('joint to joint of it, and sinew to sinew'). The antiquity of this charm is insured by its presence in a Hittite-Luvian document (CTH 760) where the spells of the "Old Woman" conclude: "bone to bone is fitted, sinew to sinew is fitted, blood to blood is fitted'. Traces of this charm are also found in the traditions of Norway, England, Russia and Greece.

A second widely attested medical solution to a problem concerns cures for baldness. In Indo-European cosmology where the universe is created from the parts of a primordial giant, plants are formed from the giant's hair. There appears to be a specific relationship between grass and hair within this system with the former behaving like hair in that it is long, appears on the surface (flesh = earth in the cosmogonic system) and the two materials both grow longer. This nexus of associations helps explain not only the widespread beliefs concerning disposal of hair in the ground (as if it were a plant) but also the cures for baldness. The *Atharvaveda* (6.136-137) describes how baldness should be cured by sprinkling the remains of a plant with strong roots on the head while Pliny (*Natural History* 26.30) recommends the application of *ladanum*, an extract from the *Cistus* plant. Germanic folk practice advises the use of burdock root and fireweed to restart the growth of hair through the nourishment of plants. The persistence of such cures until today hardly requires comment.

In the cure for baldness and other maladies or injuries, there is clear evidence that the etiology of Indo-European disease required the application of the cosmogonic principles to restore the "wholeness" of the individual. As the universe was created from the body of a giant, the appropriate members or parts of the body possessed correlates in the material world which might then be applied for their restitution. The *Atharvaveda*, for example, explains the healing properties of the Arundhati plant (*AV* 5.5) from the fact that the first man's (Yama's) horse spattered blood on it which can then, in turn, be employed to restore broken limbs in a horse (*AV* 4.12). Similarly, healing plants and herbs are attributed to the dismembered parts of a primeval Irish healer, Dian Cecht, or a primeval Iranian ox, the herbs' efficacy being related to the particular body part from which it originally derived.

Finally, comparative evidence also suggests a recurring pattern of removal of a disease or infestation from the body of the diseased. In the Indic cure (*AV* 2.33.6) for the decaying disease *yakṣma*, it is charmed out of the body from the bones to the marrow to the sinews to the veins and out the extremities (hands, fingers and then nails) while an Old Saxon charm drives the 'worm' of disease out from the marrow, to bone, to flesh, to skin, and then out through the sole of a horse's hoof. Corresponding examples can be found in Slavic and Iranian traditions which again show how the cosmogonic dissection of the universe is brought to bear to restore health. Hence, one drives the disease from the central core, the bone and marrow (stone) through the flesh (earth) and blood (water) and out one of the extremities. The restitution of health, in short, constitutes a restoration of the cosmic "wholeness" to revive that of the body.

See also **Anatomy**; **Blind**; **Cosmology**; **Deaf**; **Defect**; **Hernia**; **Measure**; **Medical God**; **Sick**. [D.Q.A., J.P.M.]

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MEET

mōd- 'meet'. [*IEW* 746–747 (**mōd-*); Wat 43 (**mōd-*); Buck 19.65]. ON *mœta* 'meet', *mōt* 'meeting, public assembly', OE *mētan* 'meet' (> NE *meet*), *gemōt* 'meeting, public assembly' (> NE *moot*), OHG *muoten* 'meet as enemies', MHG *muoze* 'meeting, public assembly', Goth *ga-mōtjan* 'meet', Arm *matč'i-* (< **mad-ē-sk̑e/o-*) 'approach'. At least a word of the west and the center of the IE world.

See also **Find**. [M.N.]

MEHRGARH

Long lasting settlement in Baluchistan spanning the period from *c* 8000 to 2500 BC. The site is of critical importance for determining the origins of the Neolithic economy in the Indian borderlands. Already by the eighth millennium BC there is evidence of einkorn (*Triticum monococcum*), emmer (*Triticum dicoccum*), bread wheat (*Triticum durum/aestivum*), and barley (*Hordeum vulgare*) along with utensils such as sickle blades and grinding stones. Initially, the primary mammalian fauna was hunted, e.g., chinkara (gazelle) (*Gazella dorcas*), wild sheep, wild goat, swamp deer (*Cervus duvauceli*), nilgai or blue bull (*Boselaphus tragocamelus*) and wild cattle (*Bos namadicus*). Through time the percentage of cattle, sheep and goat increases at the expense of wild fauna. Domestic goat may have been kept from the very beginning of the site.

The importance of Mehrgarh is that it appears to exhibit a local transition to agriculture or, at least, a transition that was almost as early as that experienced in western Asia and Anatolia. For those who propose that the Indo-Europeans spread with the expansion of early agricultural communities, Mehrgarh renders it unlikely that the earliest farmers in the territory of later Indo-Aryans and those of the west, e.g.,

Anatolians, southeast Europeans, would have had any cause to have spoken the same language. Rather, it makes it more likely that the Harappan culture or Indus Valley civilization was rooted both economically and perhaps linguistically (i.e., a non-Indo-European language) in local developments of the region.

Mehrgarh also plays a prominent role in arguments for later Indo-Aryan migrations to India. In Mehrgarh 7 (and also at the site of Sibri) there have been found graves which have been regarded as intrusive from the Bactrian-Margiana Archaeological Complex (BMAC) which a number of other scholars have suggested is to be identified with Indo-Iranians. Such evidence, dated to *c* 1800 BC, has been employed to suggest the movement of Indo-Aryans into northwest India in the late or final period of the Harappan culture.

See also BMAC; Harappan Culture; Indo-Iranian Languages. [J.P.M.]

MELT

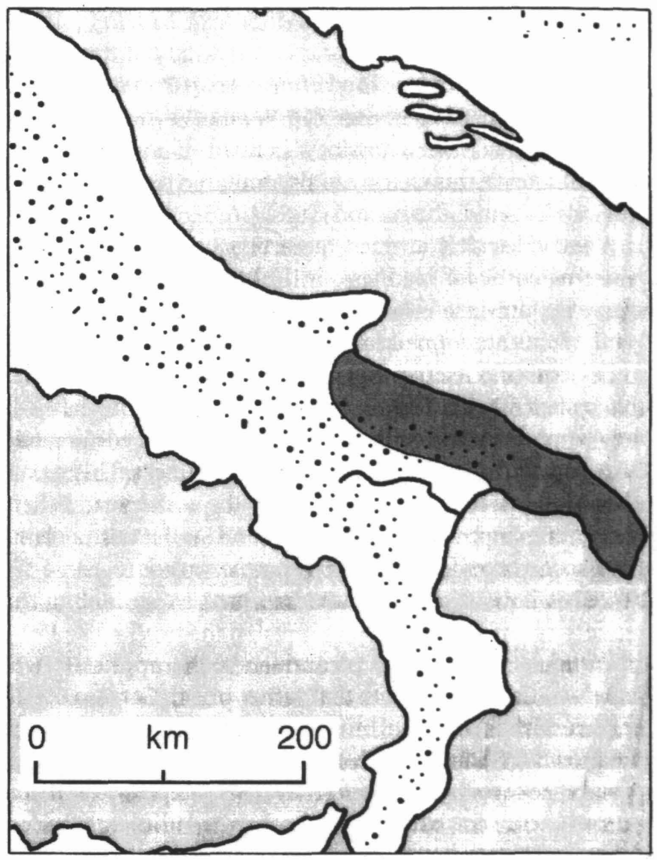
teh$_a$- 'to melt'. [*IEW* 1053–1054 (**tā-*); Wat 69 (**tā-*); BK 111 (**t[ʰ]aħ-/*t[ʰ]əħ-*)]. Wels *toddi* (< **tā-* or **tau-*) 'melt', Lat *tābeō* 'melt', ON *þeyja* 'thaw', OE *þāwian* 'thaw' (> NE *thaw*), OHG *douwen* 'thaw' (Gmc **þaujan*), OCS *tajǫ* 'melt', Grk *τήκω* 'melt', Arm *t'anam* (formation unclear) 'moisten', Oss *tajyn* ~ *tajun* (< **tāi̯-*) 'melt'. The Germanic forms represent **þau-* which may derive from **teh$_a$-u-*. Distribution and formation clearly indicate a PIE root.

(s)meld- 'to melt'. [*IEW* 718 (**mel-d-*); Wat 40 (**mel-*)]. OE *meltan* 'melt' (> NE *melt*), OHG *smelzan* 'melt', Grk *μέλδομαι* 'melt'. The meaning 'to melt' is clearly derived from a more general 'dissolve' (cf. ON *melta* 'to malt, to digest', etc.) from PIE **mel-(d)* '(become/make) soft'. A word of the west and center of the IE world.

See also Ice; Soft. [R.S.P.B.]

MESSAPIC LANGUAGE

Messapic is the designation usually given to the Indo-European language of southeastern Italy, spoken by a series of Iron Age peoples such as those designated by the Greeks as Messapians or known locally as the Iapyges. Other peoples of the region included the Apuli, Calabri, Daunii, Peucetii and Sallentini. Messapian proper is attested in *c* 250 inscriptions which date from the sixth to first centuries BC. The inscriptions are short and generally comprise only the names of the deceased inscribed on a gravestone but there is sufficient evidence to indicate that they comprise an IE language, e.g., an inscription found at Vaste which includes the name of the town Basta (cf. Grk *(ϝ)άστυ* 'town', OInd *vásati* 'dwells'), and which, like a number of other inscriptions, begins *klaohi* presumably 'hear!' (< **k̑leu-* 'hear'). Other possible words of IE origin include Mess *penke-* 'five' (< **pénkʷe-*), Mess *barzidihi* 'birch' (< **bherh$_x$ĝos*). Ancient traditions held that the ancestors of the speakers of Messapic (including their immediate neighbors) had come to Italy in the not too distant past from Illyria, the Adriatic coastal region of Croatia, Bosnia



Messapic a. Distribution of the Messapians (and Greek colonies).



Messapic b. Messapic vessel from Apulia; c. Messapic vessel from Apulia.

and Albania, and modern linguistic tradition may be in agreement. In fact, Messapic is considered by some to be the best attested variety of Illyrian, a feat of little distinction as Illyrian proper is virtually unattested. What we actually have is a series of personal and place-names on both sides of the Adriatic Sea whose similarity suggests a close genetic relationship, e.g., Illyrian *Δαζιος* and Messapic *Dazes*, Illyrian *Λαιδιας* and Messapic *Ladi-* and Illyrian *Πλατωρ* and Messapic *Plator-*. The *Peucetii* are found in Apulia and also northwest across the Adriatic in Liburnia; *Apuli* is a tribal name in southern Italy while *Apulus* is a personal name in Illyrian territory; *Dalmathus* is a personal name in Messapia which, it is claimed, corresponds to the Illyrian personal names *Dalmata* and toponyms *Dálmatas*, *Dalmanà*. Such comparisons have been adduced to support the idea that the Messapians spoke a dialect of Illyrian and that they migrated to Italy sometime before the eighth century BC. In any case Messapic represents a kind of IE that is quite independent of the Italic languages and its Balkan relationships, whatever they might be precisely, have been employed to suggest east to west movements in the establishment of IE-speaking populations in Italy.

See also ILLYRIAN LANGUAGE. [J.P.M.]

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METAL

***$h_a$ei̯-es-** 'metal > copper > bronze'. [*IEW* 15–16 (**ai̯os-*); Wat 4 (**ayes-*); GI 614 (**Haye/os-*); Buck 9.66]. Lat *aes* 'bronze, copper', Umb *ahesnes* 'copper mine', Osc *eisernim* 'copper mine', ON *eir* 'ore', OE *ār* 'ore' (> NE *ore*), OHG *ēr* 'ore', Goth *aiz* 'money, metal coin' (< Germ **ayiz*), Av *ayah-* 'metal (probably bronze)', OInd *áyas-* 'copper; iron'. The geographical distribution assures PIE status for this word but its underlying meaning is difficult to specify. Although the Iranian form has sometimes been taken to indicate 'iron', there are references in the *Avesta* (51.9b) to *ayaŋhā xšustā* 'molten metal' which accords far better with copper or a copper-alloy than presuming the technology of cast iron for the early Iranians. Reference to Miθra carrying a mace *zarōiš ayaŋhō frahixtəm* 'cast of golden metal' is surely a reference to copper or bronze rather than iron. Similarly, in Old Indic the earlier meaning of 'copper' for *áyas-* is well attested, e.g., reference to a milk vessel made out of *áyas-* without an admixture of 'tin' (*Kapiṣṭha-Kaṭha-Saṃhitā* 4,2; *Maitrāyaṇī Saṃhitā* 1,8,2), which clearly indicates unalloyed copper in contrast to bronze (an alloy of copper and tin) and in no way can be construed as 'iron'. Early Indic literature also reveals no word for 'bronze' but requires a circumlocution where both constituent elements are mentioned together. The absence of PIE terms for either of the other two constituent elements of bronze, i.e., tin and arsenic, as well as the absence of a term for 'alloy' all suggest that the IE metal term may predate bronze metallurgy. The original referent was probably simply 'metal' which in practical terms first meant 'native copper' or 'smelted copper', then only later 'bronze'. Among the Indo-Iranians **$h_a$ei̯es-* eventually came to mean 'iron' but in Germanic it came to mean 'ore' suggesting that **$h_a$ei̯es-* was a generic term and not a specific element among a constellation of other metals.

?*$h_1$roudhós 'the red metal, i.e., copper'. [*IEW* 872–873 (**roudho-*); GI 616–617 (**r(e)ud^h-*), 773; Buck 9.66]. ON *rauði* 'red iron ore', OHG *aruzzi* 'ore', OCS *ruda* 'ore, metal', Rus *rudá* 'ore', MPers *rōd* 'copper', OInd *lohá-* 'copper' (also 'reddish; iron'). These are transparent and banal extensions of **$h_1$reudh-* 'red' and cannot be employed to reconstruct a PIE 'copper'. Lat *rūdus* is frequently placed here but this *s*-stem neuter actually means 'lump', the material, stone, bronze, iron or lead, being identified by an attributive genitive *saxī* 'of stone', *aeris* 'of bronze', *ferrī* 'of iron', or *plumbī* 'of lead'. The true cognates of Lat *rūdus* may lie with OE *grēot* 'gravel' (> NE *grit*) and Rus *grudy* 'breast'. If so, we have evidence of a borrowing on the part of pre-Latin from some IE language of central Europe. The Sumerogram *URUDU* which provides the Hittite form has frequently been linked to the PIE form under the presumption that either it or a pre-Sumerian form was borrowed into PIE. But this may well be a chance similarity since PIE **$h_1$roudhós* is clearly an adjectival term and the only solid term in PIE for 'red'. In Hittite the Sumerogram appears phonetically as *kuwannu* and is probably related to Grk *κύανος* 'blue', perhaps with reference to the color of copper ores; further suggested affinities such as OCS *svinec* 'lead' and Lith *švinas* 'lead' (the latter a loan from Slavic), are phonologically and semantically distant.

For the modern metallurgist, bronze is a generic term for an alloy whose principal constituent is copper which is coupled usually with tin, more rarely with arsenic. Lexically, the terms for 'bronze' are late or are restricted to specific regions. Myc *ka-ko* 'bronze', Grk *χαλκός* 'bronze', points to a non-IE source, for PIE did not tolerate a root with both a voiceless and an aspirated stop. Yet this word lacks the open sonority and the characteristic suffixes of other "Aegean" lexical items. The Greek word is perhaps related to Lith *geležis* 'iron' and OCS *želězo* 'iron', which themselves may be related to Sino-Tibetan **qhleks* '(cast) iron', though the direction and details of the borrowing are obscure. The Hittite word for 'bronze' is indicated by a Sumerogram *ZABAR* but its phonetic equivalent is unknown. Lat *cuprium* 'Cypriot' came to mean the raw material found on Cyprus as native copper (it has been suggested that the name *Κύπρος* 'Cyprus' was derived from Hurrian *kabali* 'copper'), and gave rise not only to Romance forms such as French *cuivre*, Spanish *cobre* and Romanian *cupru* but also loans in Germanic such as OE *copor* (> NE *copper*), and NHG *kupfer* 'copper'. Latv *kapars* is from

a Low Germanic trade language. The name of the town of Brundisium, a leading center for the manufacture of bronze mirrors, is the probable source of Italian *bronzo* 'bronze', French *bronze* 'bronze' (borrowed > NE *bronze*) as well as Byzantine Grk *βροντήσιον*; whether this word was carried through Roman trade into the Near East (where for example the Roman *dēnārius* remains today as the *dinar* of Bahrain, Kuwait and Iraq) and resulted in Arm *pλinj* 'bronze', NPers *birinǰ* 'bronze' is unlikely for the phonetics are inexact and more likely candidates occur in the Caucasus, i.e., Kartvelian **pilenʒ₁*, e.g., Georgian *sp'ilenʒi* 'bronze'. These and a variety of other terms for copper and its alloys are clearly late, post-PIE terms whose affinities are not always easy to determine.

Archaeological Evidence

Copper as a diacritic of early PIE culture has but limited value as it occurs quite early and appears over a considerable area of Eurasia already by *c* 3000–2500 BC. Copper could be acquired either as a native metal, i.e., as pieces of metallic copper, or through the reduction of copper ores to metallic copper by smelting. Native copper could be worked into beads or other small ornaments and tools through beating. In order to strengthen the copper, annealing is required whereby the copper is subjected to temperatures of *c* 200–400 C although annealing might be achieved as low as 150 C.

Copper is already present at Çatal Hüyük in Anatolia by *c* 7000–6000 BC. Copper beads were found in association with slag which may have derived from either the melting of native copper or the smelting of copper ore (it is exceedingly difficult to distinguish the two processes). By the fifth millennium BC copper objects are known from both Iran and the Balkans. Copper mines dating from the fifth millennium BC are known at both Rudna Glava in Yugoslavia and Ai Bunar in Bulgaria and the Vinča and east Balkan Eneolithic cultures reflect the consumption of copper in the form of axes, awls and ornaments. Copper exchange systems are in evidence where the Balkan centers supplied the area northwest of the Black Sea, e.g., the Karbuna hoard in Moldova of the fourth millennium BC which yielded over 850 copper objects, and copper objects of Balkan derivation are found across the entire European steppe region, notably in the cemeteries at Khvalynsk on the middle Volga. The steppe region was also served by the development of copper-working in the Caucasus and by the beginning of the early Bronze Age a local copper center was established in the southern Urals associated with the Yamna and neighboring cultures. Further east, copper appears in the Afanasevo culture in the Minusinsk-Altai region where another major copper and bronze industry would later emerge.

From the Balkans we can trace the spread of copper elsewhere in Europe. It was employed in the Eneolithic Tiszapolgár and Bodrogkeresztúr cultures in the Danube region, and in northern Italy by the late fourth millennium BC. Copper was exported northwards from central Europe into the Baltic region by the period of the TRB culture where it may have been used in exchange to acquire flint. A particularly thriving copper industry developed in Iberia also by the fourth millennium BC. In Atlantic Europe, copper is often associated with the Beaker horizon which appears by *c* 2500 BC, and copper mines are known as far west as Ireland by the late third millennium BC. From this pattern, it should not be surprising that a considerable number of stocks share a common word for 'copper' or 'metal' although it is still very much uncertain whether the distribution of its lexical cognates was a product of expansion from an early copper-using center or whether a common term circulated over a wide area of closely associated IE dialects.

See also GOLD; IRON; LEAD²; SILVER; TIN. [M.E.H., J.P.M.]

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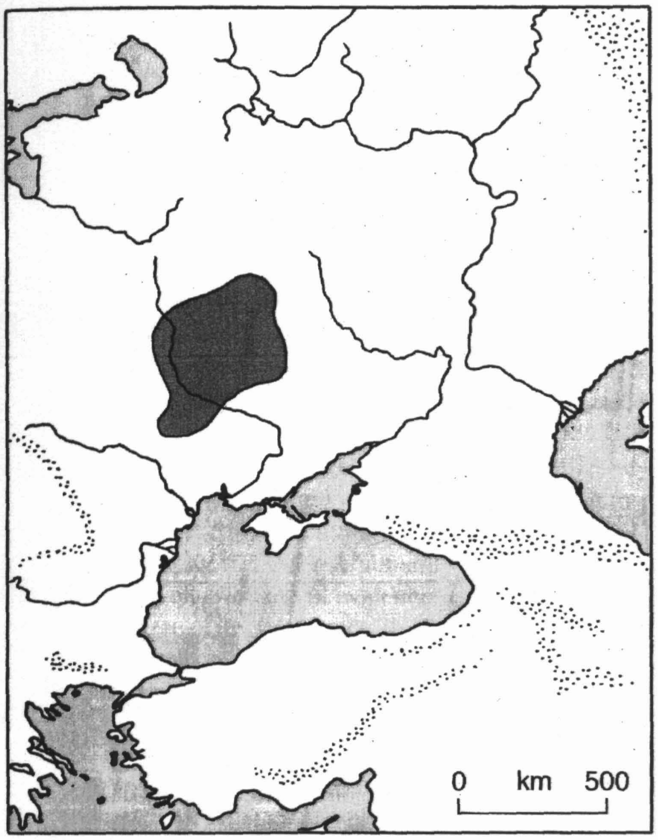
MIDDLE

***(s)me** 'middle, among'. [*IEW* 706–707 (**medhi-*); Wat 39 (**me-*); GI 58; Buck 12.37]. Alb *me* 'with', Av *maṯ* '(together) with', OInd *smat* 'with'; **me-th₂-*: ON *með* 'with', OE *mid* ~ *miþ* 'with', OHG *mit(i)* 'with', Goth *miþ* 'with, among', Alb *mjet* 'middle', Grk *μετά* 'with, among'; and the widespread derivative **médhi̯os* 'middle': MIr *mide* 'middle', NIr *Mī* (Irish county in the 'middle' of the island), Wels *mewn* 'in', Lat *medius* 'what is in the middle, intermediary', ON *miðr* 'middle', OE *midd* 'middle' (> NE *mid*), OHG *mitti* 'middle', Goth *midjis* 'middle', OPrus *median* 'forest', Lith *mēdžias* 'wood, tree', Latv *mežs* 'wood, forest' (Baltic < *'what lies between [settlements]'), OCS *mežda* 'street', *meždu* 'between', Rus *mežá* 'border', Alb *mjesditë* 'noon', *mjesnatë* 'midnight', Grk *μέσ(σ)ος* 'middle', Arm *mēǰ* 'middle', Av *maiδya-* 'middle', OInd *mádhya-* 'middle'. Old in IE.

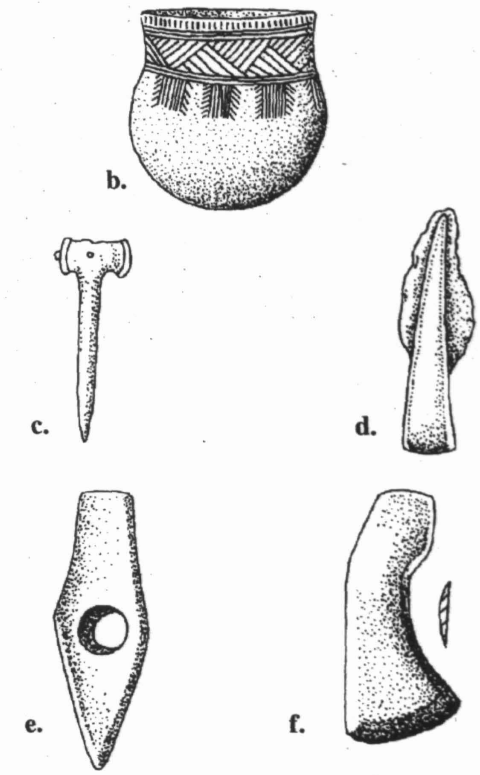
See also ADPREPS. [D.Q.A.]

MIDDLE DNIEPER CULTURE

The Middle Dnieper culture is an eastern variant of the Corded Ware cultural horizon (*c* 3200–2300 BC) and was situated primarily in the north Ukraine between the other Corded Ware regional groups and the forest-steppe and steppe zone cultures. The culture is known from over two hundred sites, primarily tumulus barrows, some of which have been inserted into earlier Yamna burials and the cultural substrate is seen to be both Yamna and late Tripolye. Settlements are poorly known but would appear to have been small villages with surface dwellings. Burials were within kurgans with the deceased usually in the extended, more rarely in the flexed, position; there is also evidence of cremation from sites in Belarus. The burials were accompanied by pottery (amphora and beakers), stone battle-axes and possibly ornaments. Metal imports appear in the late stages along with ornaments of amber. As the primary contenders for staging areas of major



Middle Dnieper a. Distribution of the Middle Dnieper culture.



Middle Dnieper b. Decorated bowl; c. Bone hammer-head pin; d. Bronze spearhead; e. Stone "battle-ax"; f. Bronze shaft-hole ax.

IE migrations are the Corded Ware culture and the Yamna culture of the steppelands and forest-steppe, the Middle Dnieper culture occupies a pivotal role in attempts to define the interrelationships between these two vast cultural blocks. The territory of the Middle Dnieper culture would appear to have been later occupied by the Proto-Slavs.

See also CORDED WARE CULTURE; FATYANOVO-BALANOVO CULTURE. [J.P.M.]

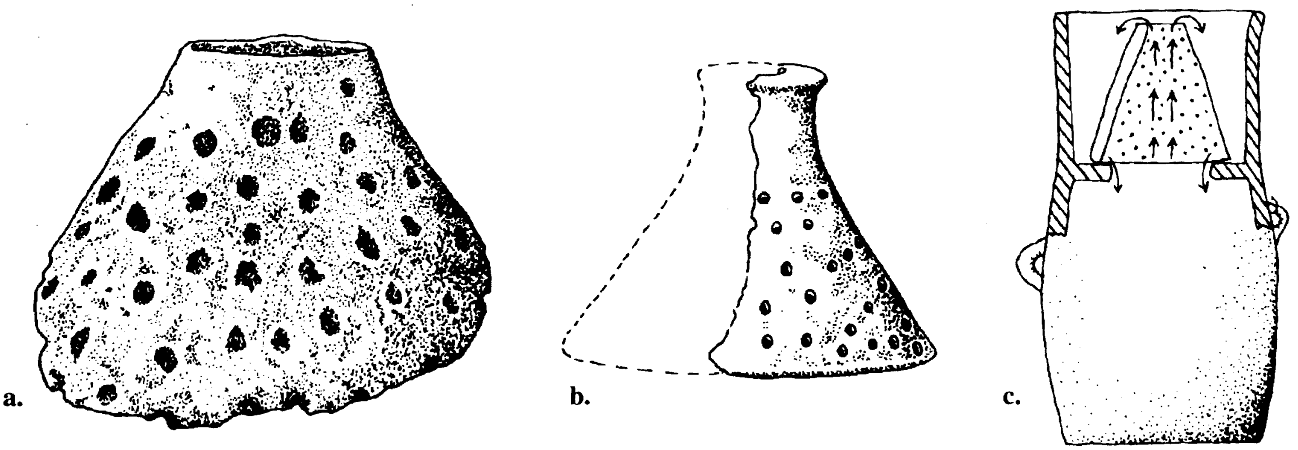
MIDGE *see* FLY[1], INSECTS

MILK

We can reconstruct a rich vocabulary for PIE concerning milk and milk products, a testimony to the importance of these things to a people who were heavily dependent on animal husbandry for sustenance. In some stocks, Indo-Iranian particularly, milk and its products come to be the type example of both food and richness in general. Curiously perhaps, it is difficult to reconstruct the original PIE words for 'milk' itself, most PIE stocks using derivatives of the extremely widespread verb for milking.

***$h_a$melĝ-** 'to milk'. [*IEW* 722–723 (**mĕĝ-*); Wat 41 (**melg-*); GI 486 (**melk'-*); Buck 5.86; BK 552 (**mal-/*məl-*)]. From pres. **$h_a$mélĝti/*$h_a$ml̥ĝénti*: MIr *bligid* (< **mlig-* < **ml̥ĝ-*) 'milks', ON *molka* 'milk', *mylkja* 'suck', OE *melcan* 'milk' (> NE *milk*), OHG *melchan* 'milk', Lith *mélžiu* 'milk', ORus *mŭlzu* 'milk', Grk *ἀμέλγω* 'milk'; from pres. **$h_a$molĝéi̯e/o-*: MIr *bluigid* (< **$h_a$mloĝei̯e/o-* with metathesis) 'milks', Lat *mulgeō* 'milk', Lith *malžýti* 'to milk'; from pres. **$h_a$molĝeh$_a$-*: Lith *málžau* 'milk', TochA *mālkā-* 'will milk'. Cf. derived words for 'milk' (noun): OIr *mlicht*, ON *mjolk*, OE *meolc* (> NE *milk*), OHG *miluh*, Goth *miluks*, OCS *mlěko*, Rus *molokó* (Slavic < Germanic), Alb *mjel* 'milk', TochA *malke*, TochB *malkwer*. In Latin, perhaps also in Celtic, this verb came to have, in addition to its basic meaning, a more general one 'bring to light, make public', e.g., Lat *prōmulgāre legem* 'to promulgate a law'. Widespread and old in IE. We do not know the Hittite word for 'to milk'; in Indo-Iranian the original word has been replaced by a verb whose earlier meaning was 'to make/become useful'.

***ĝ(l̥)lákt** (gen. ***ĝlaktós**) 'milk'. [*IEW* 400–401 (**glag-* ~ **glak-*); Wat 41 (**g(a)lag-* ~ *(g(a)lakt-*); GI 85; Buck 5.87]. Lat *lac* (gen. *lactis*) (< **lakt* < **dlakt* with regular reduction of dental stop + *-l-* cluster < **glakt* with regular dissimilation) 'milk', Grk *γάλα* (gen. *γάλακτος*) 'milk' (with generalization of the Lindeman variant **gl̥lakt*), *γλακτοφάγος* 'living on milk' (without the **-t* we have *γλακῶντες* [pl.] 'full of milk', *γλάγος* [with voicing assimilation] 'milk'), Hit *galaktar* (= /glaktar/) 'sap, milky fluid from trees and plants'. Since Latin, Greek, and Hittite are all centum languages the reconstructed initial is ambiguous; it could be **g-* or **ĝ-*. If the latter, it is very



Milk a. Ceramic strainer from Neolithic Poland; b. Ceramic strainer from Usatovo Culture, Ukraine; c. Bronze Age Italian (Apennine culture) "milk-boiler".

tempting to add the various Nūristāni words for 'milk': Ashkun *zō*, Kati *zu*, Tregami *dzor*, Waigali *zōr*. These words reflect a Proto-Nūristāni **dzara-*, Proto-Indo-Iranian **ź(h)ara-* or **ź(h)ṛra-*. A **źṛra-* would match Grk *γάλα* exactly. There is also an Ancient Chinese **lak* 'dairy product, cottage cheese, or similar commodity, imported from northern barbarians' that would appear to reflect an even older Chinese **g/krak* or the like and it has been suggested that this word reflects a borrowing on the part of Chinese from some IE group in eastern Central Asia. With or without the evidence from Chinese, both the archaic morphological shape and the geographical distribution would seem to guarantee this item as at least a regional word in PIE. Possibly the original noun 'milk' since it has no known root connections within PIE.

***dhédhh$_1$i** (gen. ***dhedhnós**) '± coagulated (sour) milk'. [*IEW* 241–242 (**dhedhn-*); GI 487]. OPrus *dadan* 'milk', Alb *djathë* 'cheese', OInd *dádhi* 'coagulated milk, thick sour milk, curds and whey'. A reduplicated derivative of **dheh$_1$(i)-* 'suck(le)'. Related are the unreduplicated Grk *θήνιον* 'milk', Arm *del* 'colostrum, milky liquid'. At least a word of the center and east of the IE world.

***ksih$_x$róm** '± (skim) milk, whey'. [GI 487]. Alb *hirrë* (< **ksih$_x$r-neh$_a$-*) 'whey', MPers/NPers *šīr* 'milk', Yidgha *xšīra* 'milk', Oss *æxsyr* 'milk', OInd *kṣīrám* '(thickened) milk, milky sap'. A word of the center and east of the IE world. If **ksih$_x$ró-* is metathesized from **skih$_x$rom* it might be possible to connect this word with Lith *skíedžiu* 'weaken, dilute', *skýstas* 'fluid, liquid; thin (of soup)', Latv *šķiêdu* 'dissipate' [cf. *IEW* 921 (**skĕi-d-*)] but the connection is obviously most speculative.

***pipih$_x$usih$_a$-** 'rich in milk'. [*IEW* 793 (**pi-pi̯-us-ī*); BK 40 (**p[^{h}]a-/*p[^{h}]ə-*)]. Lith *papìjusi* 'cow who produces milk', Av *a-pipyūšī* 'milkless', OInd *pipyúṣī* 'rich in milk'. At least a word of the center and east of the IE world. A participle of **peih$_x$-* 'be swollen, overflowing', other derivatives of which are **píh$_x$u̯ṛ* 'fat(ness)', Lith *píenas* 'milk', Latv *piẽns* 'milk', Av *paēman-* 'mother's milk', OInd *páyas-* 'milk'.

?*(k)su̯eid- 'milk'. [*IEW* 1043 (**su̯ēid-*)]. Lith *svíestas* 'butter', Latv *sviêsts* ~ *svìests* 'butter' (Baltic < **(k)su̯eid-to-* '± milk product'?), Av *xšvīd-* 'milk'. It is not certain that the Baltic and Iranian words belong together. If they do, we have evidence for a word of the center and east of the IE world.

??*gh(e)rto- '± milk'. [*IEW* 446 (**gherto-*); GI 486; cf. Buck 5.89]. MIr *gert* 'product of cattle (not calves) but especially milk and manure', OInd *ghṛtá-* 'cream, butter, ghee'. An equation that is both phonologically and semantically less than perfect; very dubiously a PIE word.

***ténkl̥** (gen. ***tn̥klós**) 'buttermilk'. [*IEW* 1068 (**t(e)nk-lo-m*); cf. Wat 70 (**tenk̇-*)]. ON *þēl* 'buttermilk', MPers *taxr* 'bitter' (< *'sour'), OInd *takrám* 'buttermilk mixed with water'. From **tenk-* 'become firm, curdle, thicken'. Though attested only on the fringes of the IE world, and there only late, there is a reasonable chance that we have in these attestations the reflexes of a PIE word.

?*réughmen- 'cream'. [*IEW* 873 (**reugh-m(e)n-*); cf. Buck 5.89]. ON *rjūmi* 'cream', OE *rēam* 'cream' (> NE *ream*), OHG *raum* 'cream' (OE and OHG < **roughmo-*), Av *raoγna-* 'butter' (< **reugh(m)n-o-* 'pertaining to cream'). The apparent agreement of Germanic and Iranian suggests but does not guarantee PIE status for this word.

***h$_3$éng^{w}n̥** 'butter'. [*IEW* 779 (**n̥g$^u̯$-en-*); Wat 46 (**ong^w-*); GI 609 (**ong^{ho}-*); Buck 5.89]. OIr *imb* 'butter', Wels *ymenyn* 'butter', Lat *unguen* 'fat, grease', OHG *ancho* 'butter', OPrus *anctan* 'butter'. Cf. OInd *áñjas-* 'ointment'. A word of the west and center of the IE world. From **h$_3$eng^w-* 'anoint'.

***tu̯óh$_x$r̥** (gen. ***tuh$_x$rós**) 'curds, curdled milk'. [*IEW* 1083 (**tūro-*); Buck 5.88]. OCS *tvarogŭ* 'curdled milk', Rus *tvoróg* 'curds, soft cheese', Grk *τῡρός* 'cheese', *βούτῡρος* 'butter' (> Lat *būtȳrum*, whence ultimately NE *butter*), Av *tūiri-* 'curdled milk, whey'. This looks to be a nominal derivative of

an underlying verb *$tu̯eh_x$- which, however, is otherwise unknown (it is sometimes connected with *$teu(h_a)$- 'swell, grow strong'—from the notion of the curds "swelling" in the whey?). At least a word of the center and east of the IE world.

The identification of milking and dairy products in prehistory rests in general on secondary evidence that is frequently disputed. The earliest milked animal was probably the goat or the sheep, the former providing the greater quantity of milk. Iconographic evidence from the eastern Mediterranean suggests that cattle were milked only after goat and/or sheep dairying had been established as the earliest cattle-milkers are depicted to the rear of the animal (as one might milk a goat) rather than at the side as one customarily milks a cow.

That sheep and goats may have been milked since the early Neolithic is rarely disputed unlike the evidence for exploiting cattle for milk which is a common cultural and also mythic motif among many IE stocks. Arguments for cattle dairying rests primarily on two lines of evidence. The first is the age-slaughter pattern of livestock where it has often been assumed that calves were competitors for milk with humans and thus a dairying economy would be indicated where there is evidence of a very high slaughter pattern of calves. Such criteria, however, may be proceeding from an invalid assumption and there is also considerable ethnographic evidence among African cattle-milking populations and early medieval European sources to argue that in prehistoric and early historic times cows would not give milk in the absence of their calves. Some empirical evidence, such as the examination of animal remains from historically attested dairy economies such as that of early medieval Ireland, suggests that the latter may well be true and hence most claims for Neolithic *cattle* dairying on the basis of the slaughter of young animals may not be secure.

The second group of evidence is technological and rests primarily on the presence of a series of clay strainers (and for the Bronze Age, "milk boilers" and open strap-handled vessels) which were presumed to be part of the dairy economy. The identification of the function of these utensils is based largely on their similarity with modern metal strainers which were employed, for example, in separating curds from whey. As fragments of ceramic strainers have been found on early Neolithic sites in central Europe, e.g., Linear Ware sites, it has been suggested that the raising of cattle for their dairy products as well as their meat was known already in the early Neolithic. But it should be emphasized that the modern strainers which suggest this interpretive scheme are employed in the production of cheese from sheep's milk and there is no reason to assume that they must have been utilized for cow's milk in the early Neolithic. Generally, on the evidence of age-slaughter pattern and similar strainers, and the increase in the numbers of cattle in some areas, the origins and dispersion of cattle-based dairying is set to the period *c* 3500 BC, i.e., at the transition from the late Neolithic to the Bronze Age, when a series of other "secondary products" such as the use of animals for draught, the plow, and the appearance of woolly sheep are recorded.

Dairying, at whatever date, has certain genetic implications as well as economic. Many of the world's populations, after the age of four, do not produce sufficient quantities of the enzyme lactase which breaks down lactose (milk sugar). The consumption of milk by an adult who cannot process the lactose results in a variety of unpleasant side-effects—flatulence, belching, upset stomach, and extreme diarrhoea. The enzyme is present among populations of Europe and north Africa extending eastwards to east India but even here there are large areas where people are lactose intolerant, e.g., about half the population of the Mediterranean. Some have argued that the gene for producing lactase developed in northwest European populations, when their diets shifted to cereal agriculture in an environment low on sunlight. The consumption of milk, which is high in calcium and would have helped mitigate against vitamin D deficiency, would have presented them with a selective advantage. Those lacking the necessary enzyme can still consume cattle-based dairy products provided that they have been processed to make butter or cheese.

See also ANATOMY; COW; FOOD; GOAT; SHEEP.
[D.Q.A., J. P. M.]

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MILLET

?*$melh_2$- '± grain, millet'. [*IEW* 718 (**mél-i-/*meln-és*); Wat 40–41 (**melə-*); GI 567–568 (**mel-*); BK 518 (**mul-/*mol-*)]. Lat *milium* 'millet', Lith *málna* (mostly pl. *málnos*) 'row of mown grain or grass; Italian millet', Grk *μελίνη* 'millet'. It may be that these are all rather banal derivatives of **$melh_2$-* 'grind', in which case the apparent agreement of these three stocks is not very significant. It is, however, also possible that the Latin and Greek words reflect different derivational enlargements of a PIE **$melh_2i$-* or even, as the *IEW* supposes, that all three reflect different rebuildings of a heteroclitic (nom./acc.) **$mélh_2i$*, (gen.) **$mélh_2nos$*. Certainly the presence of the latter type of paradigm would be strong evidence for the existence of this word in PIE but positing such a paradigm would be speculative.

?*pano- ~ *paniko/ehₐ- 'millet'. [cf. *IEW* 789]. Lat *pānicum* 'millet' (borrowed > NE *panic grass*), Shughni *pinǰ* 'millet', Sarikoli *penǰ* 'millet', Khufi *rušbinǰ* (< **rušta-* 'reddish' + word for millet) 'a kind of millet', Yaghulami *xarban* 'millet, (particularly *Panicum Italicum*)', Wanji *xarban* 'millet,

(particularly *Panicum Italicum*)' (both < Proto-Iranian **xarda-pana-* '± black/dark millet'). The apparent agreement of Latin and the lexically conservative Iranian languages of the Pamir region makes probable, but not certain, the (late) PIE status of this word.

Unlike wheat and barley, millet does not seem to have been part of the initial "package" of cereals introduced by the earliest farmers of the Near East into Europe although it does appear on later Neolithic settlements. Its origins are uncertain but the evidence points to Central Asia rather than the Near East where certain evidence of its exploitation as a domesticate begins only in the first millennium BC. It is known much earlier in eastern and central Europe, for example, on sites of the Linear Ware and Tripolye cultures as well as further east in the Dnieper Donets and Sredny Stog cultures. It is also recorded from western Siberia by about the fourth millennium BC. Other than a possible middle Neolithic exception, millet does not seem to appear on Greek sites until the early Bronze Age and it tends to appear similarly late, late Neolithic or Bronze Age, elsewhere in the Mediterranean or in Switzerland. It appears on the frontiers of India by the third millennium BC while foxtail millet (*Setaria italica*) is known from the Harappan culture.

Millet is regarded as one of the hardiest cereals since it can prosper in desiccated environments on poor soils, and for this reason some have proposed that it expanded along the steppe which accounts for its prominent appearance in cultures north of the Black and Caspian seas. It was consumed, boiled like rice or ground as porridge.

See also AGRICULTURE; GRAIN. [D.Q.A., J.P.M.]

MINNOW *see* FISH

MISTLETOE

***u̯ikso-** 'mistletoe, birdlime'. [*IEW* 1134 (**u̯īks-*); GI 555 (**wīk^hs-*)]. Lat *viscum* 'birdlime', OHG *wīchsila* 'black cherry (*Prunus cerasus*)', Rus *víšnja* 'cherry', Grk *ἰξός* 'mistletoe'.

This dialectal form is mainly supported by the Latin and Greek cognates although the latter primarily denotes the golden, parasitic plant which cloaks the wand of druids and shamans discussed in James Frazer's *The Golden Bough*, whereas in the former stock the primary meaning is 'birdlime', a kind of sticky stuff smeared on branches by fowlers to catch (perching) birds. *Viscum*, incidentally, is the source of NE *viscous*. The classical language forms have been linked to Germanic and Slavic although the two latter stocks all yield the meaning 'cherry'. Given the low similarity between the mistletoe and the cherry (granted that both bear berries) and the absence of any information on the value of any part of the cherry for making birdlime or glue, the Germanic and Slavic forms must be questioned and **u̯ikso-* be classified as very late and dialectally limited.

See also GROVE; OAK; PLANTS; TREES. [P.F.]

MIX

***i̯euh$_x$-** 'mix something moist'. [*IEW* 507 (**i̯eu-*); Wat 79 (**yeuə-*); GI 608 (**i̯eu̯-s-*)]. OIr *īth* 'pottage', MWels *iwd* 'porridge', Lat *iūs* 'sauce, soup', OPrus *juse* 'fish-soup', Lith *jáuti* 'mix, entangle', Latv *jàut* 'mix, mix dough', Grk *ζύμη* 'leaven', OInd *yáuti* 'binds, unites', *yū́ṣ-* 'soup, broth'. The zero-grade of the root provides the base for the nominal forms meaning 'soup' or 'porridge'. Distribution suggests PIE status.

***k̂erh$_x$-** 'mix'. [*IEW* 582 (**k̂erə-*); Wat 30 (**kerə-*); Buck 5.17]. ON *hrœra* 'move, stir', OE *hrēran* 'move, stir', OHG *hruojan* 'move, stir', Grk *κίρνημι* 'mix', Av *sar-* 'associate with, mix with', OInd *śrīṇā́ti* 'mixes, mingles'. Cf. the participle **k̂r̥h$_x$-to-s* attested in Grk *ἄ-κρᾱτος* 'unmixed, pure', and OInd *śrītá-* 'mixed'. The Old Indic form is unexpected but may be explained as an attempt to avoid homophony with *śr̥ṇā́ti* 'smashes'. Both Greek and Old Indic show a nasal infix for the present stem. Distribution supports PIE status for this word.

***meik̂-** 'mix'. [*IEW* 714 (**mei-k̂-*); Wat 40 (**meik-*); Buck 5.17]. OIr *mescaid* 'mixes, agitates, troubles', Wels *mysgu* 'mix, mingle', Lat *misceō* 'mix', OE *miscian* 'mix', OHG *misken* 'mix', Lith *miẽšti* 'mix', Latv *màisīt* 'stir, mix', OCS *měsiti* 'mix', Grk *μίσγω* (< **meig-*) 'mix', Av *minašti* 'mixes', OInd *mekṣayati* 'mixes, stirs'. Celtic, Latin, Germanic (if the Germanic words are not ultimately loans from Lat *misceō*) and Greek all exhibit the suffix **-sk̂e/o-* while the Old Indic causative is based on a *s*-extension of the root. Distribution indicates PIE status.

See also BROTH. [M.N.]

MOAN

***sten-** 'moan'. [*IEW* 1021 (**(s)ten-*); Wat 66 (**(s)tenə-*)]. ON *stynr* 'moaning', OE *stenan* 'moan, Lith *stenù* 'moan', OCS *stenjǫ* 'moan', Grk *στένω* 'roar', OInd *stánati* 'thunders'. Cf. Rus *stón* 'moaning', Grk *στόνος* 'moaning', OInd *abhi-ṣṭaná-* 'din'. Sufficiently widespread to be a likely candidate for PIE status. Related to **tenh$_x$-* 'thunder'.

See also THUNDER. [D.Q.A.]

MONKEY

There is no reconstructible word for 'monkey' or 'ape' in PIE although there are several borrowed forms that underlie words in various IE languages. [*IEW* 2 (**abō(n)*); GI 442 (**q^he/op^h-*); Buck 3.76]. Celtic (Hesychius) *ἀβράνας* 'monkey, ape', ON *api* 'ape', OE *apa* 'ape' (> NE *ape*), OHG *affo* 'ape', ORus *ópica* 'monkey, ape', Grk *κῆπος* ~ *κῆβος* 'long-tailed monkey', OInd *kapí-* 'monkey'. The Greek and Indic words are cognates by borrowing with other Near Eastern words for 'ape' such as Hebrew *qōph* and Egyptian *qephi* but what language was the ultimate donor and what the exact route of transmission was remain unclear. The Germanic words are generally taken to be borrowings from Celtic, presuming *ἀβράνας*, recorded by Hesychius, is a mistake for *ἀβάνας*. Again the ultimate source of the Celtic word is not known, but surely it does not reflect anything PIE.

The only monkeys to survive in Europe up until the time of humans was the macaque (*Macaca*) whose remains are found from Britain to the Caucasus from five million years ago to *c* 200,000 BC. The Barbary ape (*Macaca sylvanus*), if not a relic, was re-introduced to Gibraltar from North Africa. The earliest context for monkeys in Greece is their depiction on the walls of Minoan palaces in Crete during the Bronze Age. Their earliest appearance in west European contexts is when they appear as the result of long-distance contacts, presumably prestige gift-exchange, with North Africa. Barbary apes have been uncovered from both Ireland and Luxembourg in apparently "Celtic" (i.e., La Tène) contexts during the last three centuries BC.

[D.Q.A., J.P.M.]

MOON

louksneh$_a$- 'moon'. [*IEW* 687 (**louk-s-no-*); Wat 37 (**leuk-snā-*); GI 591 (**louk^{h}snā-*); Buck 1.53; BK 580 (**law-/*ləw-*)]. MIr *dia lūain* 'Monday' (or Latin loan?), Lat *lūna* (< **le/ouksnā*) 'moon', OCS *luna* (< **louksnā*) 'moon' (Latin loan?). A word meaning 'shining, gleaming' (cf. Av *raoxšna-* 'gleaming') from the root **leuk-* 'light', was no doubt an epithet for the 'moon' and adopted by a few languages as one of the words for the 'moon', e.g., Arm *lusin* (< **le/oukenos*) 'moon'. The OPrus (pl.) *lauxnos* means 'stars'.

méh$_1$-nōt* ~ **meh$_1$-n(é)s- 'moon'. [*IEW* 731–732 (**mēnōt*); Wat 39 (**mēn-*); GI 590–591 (**meH-s/ *me(H)-n-*); Buck 1.53]. OIr *mī* 'month', Wels *mis* (< **mēns*) 'month', Lat *mēnsis* (gen. pl. *mēnsum*) 'month', ON *māni* 'moon', OE *mōna* 'moon' (> NE *moon*), OHG *māno* 'moon', Goth *mēna* 'moon' (cf. ON *mānaðr* 'month', OE *mōnaþ* 'month' (> NE *month*), OHG *mānōt* 'month', Goth *mēnōþs* 'month'), Lith *mēnuo* 'moon, month', Latv *mēnesis* 'moon', OCS *měsęcĭ* (< **mēs-ŋ-ko-*) 'moon, month', SC *mjësēc* 'month', Alb *muaj* (< **mōn-* < **mēn-*) 'month', Grk *μήν* 'month', Arm *amis* 'month', Av *må* (= *maah*) 'moon, month', OInd *mā́s-* 'moon, month', TochA *mañ* 'moon, month', TochB *meñe* 'moon, month'. Lithuanian probably retains the old paradigm **méh$_1$nōt*, (acc) **meh$_1$nés-m̥*, (gen.) **meh$_1$ns-ós* (with retraction of the stress according to Hirt's Law). Germanic generalized the *t*-stem, but the loss of *-t* in the nominative stimulated the creation of an *n*-stem; the *t*-stem was retained in the plural, where the meaning 'month' occurred most often. Arm *amis* has been contaminated by *am-* 'year'. Indo-Iran **maas* < **meh$_1$n̥s-*. From **meh$_1$-* 'to measure'.

(s)kend- 'moon'. [*IEW* 526 (**(s)kend-*); Buck 1.53]. MBret *cann* (< **kn̥d-*) 'full moon' (cf. Wels *cann* 'brilliant'), Alb (Gheg) *hâně* 'moon', (Tosk) *hëně* (< **skondnā*) 'moon', OInd *candrá-mās* 'the Moon (god)', Sindhi *caṇḍru* 'moon'. Grk *κάνδαρος* 'charcoal' does not belong here. From the root **(s)kend-* 'shine'.

Within the structure of reconstructed IE cosmogony, the moon tends to be derived from the mind or from the seat of thought, the breast. Unlike most of the other cosmogonic transformations, e.g., wind is from the breath (of a primordial giant), the heavens are from the head, the association between the moon and human anatomy, found in Indic, Greek, Slavic and Romanian sources, lacks a transparent connection. Bruce Lincoln has suggested that it may have been motivated in early IE times on the (?vague) phonological similarity between **méh$_1$-nōt* ~ **meh$_1$-n(é)s-* 'moon' and ***men-*** 'to think, mind' and its extensions.

See also **Cosmology**. [R.S.P.B.]

Further Readings

Beekes, R. S. P. (1982) GAv *må*, the PIE word for 'moon, month' and the perfect participle. *JIES* 10, 53–64.

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MORNING *see* EARLY

MOSQUITO *see* FLY[1]

MOSS

mēus (gen. ***musós***) 'moss, mould'. [*IEW* 742 (**meus-*); Wat 42 (**meus-*); GI 572 (**m(e)us-*)]. Lat *muscus* 'moss', ON *mosi* 'moss', *mȳrr* (< **meusī-*) 'mould', Dan (dial.) *musk* 'mould', OE *mēos* 'moss', *mōs* 'bog, marsh' (> NE *moss*), OHG *mos* 'moss, bog', *mios* 'moss', Lith (pl.) *mùsos* 'mould', (pl.) *mūsaĩ* 'mould on soured milk', ORus *mŭchŭ* 'moss', Rus *mokh* 'moss'. Restricted to the west and center of the IE world. Probably a late and dialectally restricted word in IE.

See also **Plants**. [D.Q.A.]

MOTHER

méh$_a$tēr (or ***meh$_a$tḗr*** or ***mā́tēr***) (gen. ***meh$_a$trós***) 'mother'. [*IEW* 700–701 (**māter-*); Wat 39 (**māter-*); GI 667 (**maHt^{h}er-*); Buck 2.36; Szem 2; Wordick 103–104]. OIr *māthair* 'mother', Lat *māter* 'mother', Osc *maatreis* 'mother', Umb *mater-* 'mother', ON *mōðir* 'mother', OE *mōdor* 'mother' (> NE *mother*), Fris *moder* 'mother', OHG *muoter* 'mother', OPrus *mothe* 'mother', Lith *mótė* 'mother' (later 'wife'), Latv *māte* 'mother', OCS *mati* 'mother', Rus *matĭ* 'mother', Czech *máti* 'mother', Grk *μήτηρ* 'mother', Doric *μᾱ́τηρ* 'mother', Phryg *ματαρ* 'mother', Arm *mayr* 'mother', Av *mātar-* 'mother', OPers *mātar-* 'mother', Sogd *m'ṭ* 'mother', Oss *mæd* 'mother', OInd *mātár-* 'mother', TochA *mācar* 'mother', TochB *mācer* 'mother'. The stress pattern we find in Indic and Germanic for 'mother' is probably analogical to that of 'father' and 'daughter'. Derivatives: Wels *modreb* 'mother's sister', Alb *motër* (< **meh$_a$tr-eh$_a$-* '[maternal] sister') 'sister'. The PIE word for 'mother'.

h$_4$en- (or ***an***) '(old) woman, mother'. [*IEW* 36 (**an-*); Wat 2 (**an-*); BK 454 (**an^y-*)]. OIr *Ana* 'mother of the gods', Lat *anus* 'old woman', Hit *annas* 'mother', Palaic *ānnas* 'mother', Luv *ānna/i-* 'mother', Lydian *ēna-* 'mother', Lycian *ēne/i* 'mother'. A word, probably ultimately derived from child-language, which is widespread and old in IE. Only in Anatolian and Armenian is this word phonologically distinct

from _*h$_2$en-_ 'grandmother' as seen in OHG _ana_ 'grandfather', Goth _anō_ 'grandmother', OPrus _ane_ 'female ancestor', OCS _vŭnǫkŭ_ 'grandfather', Rus _vnuk_ 'grandfather' (Proto-Slavic _*ononko-_ < _*h$_2$en-h$_2$en-ko-_), Grk _ἀννίς_ (Hesychius) 'grandmother', Arm _han_ 'grandmother', Hit _hannas_ 'grandmother', Lycian _xñnahe/i-_ 'of a grandmother', OPers _nyākā_ (< _*h$_2$n-i̯eh$_a$-keh$_a$-_) 'grandmother'. It seems likely that the form of _*h$_2$en-_ 'grandmother' has been influenced by that of _*h$_2$euh$_2$os_ 'grandfather' (compare the alliterating pairs in Hittite of _attas annas_ 'father and mother' and _hūhhas hannas_ 'grandfather and grandmother'.

***n-h$_4$en-** (or ***n-an-**?) 'mother'. [_IEW_ 754 (_*nana_), Wat 43 (_*nana_); BK 454 (_*an^y-_)]. Wels _nain_ 'grandmother', Late Lat _nonnus_ 'nurse', Alb _nënë_ 'mother', Rus _njánja_ 'nurse', Grk _νάννη_ 'cousin, aunt', NPers _nana_ 'mother', OInd _naná-_ 'mother'. Possibly a reduplicated form of the previous entry. In any case, widespread and old in IE.

***h$_4$em-** (or ***am-**) 'mother'. [_IEW_ 36 (_*am(m)a_); Wat 2 (_*amma_); BK 439 (_*am(m)-/*əm(m)-_)]. Late Lat _amma_ 'mother', ON _amma_ 'grandmother', OHG _amma_ 'mother', Lith _ambà_ 'nurse', Alb _ëmë_ 'mother', Grk _ἀμμάς_ 'mother', OInd _ambā́_ 'mother', TochB _amma-kki_ 'mother'. Another word that reflects child-language. By its widespread distribution, it is likely to reflect a pet form for 'mother' of PIE age.

***m-h$_4$em-** (or ***m-am-**) 'mother'. [_IEW_ 694 (_*mā ~ *mămā_); Wat 38 (_*mā-_); Buck 2.36; BK 439 (_*am(m)-/ *əm(m)-_)]. NIr _mam_ 'mother', Wels _mam_ 'mother', Lat _mamma_ 'breast; mommy, grandmother', OHG _muoma_ 'aunt', Lith _mamà_ 'mother', Latv _māma_ 'mother', Rus _máma_ 'mother', Alb _mëmë_ 'mother', Grk _μάμμη_ 'mother' (later 'grandmother'), Arm _mam_ 'grandmother', NPers _mām_ 'mother', OInd _mā_ 'mother'. Possibly a reduplicated form of the previous entry and may obviously derive from the universally observed pattern of children's references to their mother, e.g., NE _ma_, Chinese _mā_ 'mother'.

***h$_a$ekkeh$_a$-** 'mother'. [_IEW_ 23 (_*akkā_); BK 417 (_*ak[^{h}](k[^{h}])-/*ək[^{h}](k[^{h}])-_)]. Lat _Acca_ 'mother' (Roman goddess), Grk _'Ακκώ_ (nurse of Dēmētēr), OInd _akkā_ 'mother'. Although less widespread than many of the other popular words for 'mother', it is possible that this one too is of (late) PIE antiquity.

?*ĝenh$_1$trih$_a$- 'mother, procreatrix'. [IEW 374 (_*ĝen-_); Wat 19 (_*genə-_); BK 275 (_*k'an-/*k'ən-_)]. Lat _genetrīx_ 'procreatrix', Grk _γενέτειρα_ 'procreatrix', OInd _janitrī_ 'procreatrix'. Since the morphology is productive, it is not certain that these words reflect a PIE ancestor.

The most common Indo-European term for 'mother' was _*méh$_a$tēr_, a formation absent only in Hittite. Speculations on whether this term was built on an existing semantic root or derives from a common human tendency to use labials and alveolars for parental terms is even more fruitless than most etymological speculation of kinship terms although it has been shown on a cross-language family basis that stops, nasals and _a_-vocalisms predominate in the words for 'mother' and 'father'. If the deep etymology of PIE 'mother' is indeed only the 'one who gets addressed ma-ma', then we might presume that the reconstructed laryngeal is hardly etymological.

In addition to this formal term, PIE also possessed a number of pet terms, _*an-_ and _*am-_, identified by _a_-vocalism; often these appear in variants (_*n-an-_ and _*m-am-_) which reflect a peculiar reduplication in which the second consonant of the stem is added to the beginning of the word. Finally, there may also have been a biologically precise term, _*ĝenh$_1$trih$_a$-_ 'progenitrix' (if the Latin, Greek, and Old Indic words are not independent creations). The need for a specific term for biological mother suggests that the social term 'mother' included more than the biological mother, possibly the mother's sister and mother's brother's daughter.

See also GRANDMOTHER; KINSHIP; SISTER. [M.E.H.]

MOTHER-IN-LAW

***su̯ek̂rúh$_a$s** 'mother-in-law'. [_IEW_ 1043–1044 (_*su̯ekrū́-_); GI 662 (_*ś^{o}ek̂^{h}ruH-_); Buck 2.62; Szem 17–18; Wordick 190–191]. Wels _chwegr_ 'mother-in-law', Lat _socrus_ 'mother-in-law', ON _sværa_ (< Gmc _*swéhrōn_) 'mother-in-law', OE _sweger_ 'spouse's mother', OHG _swigar ~ swigur_ 'mother-in-law', Goth _swaíhrō_ 'mother-in-law' (< Gmc _*swegrṓ_), Lith _šešiurė_ 'mother-in-law' (widely replaced by _anýta_ 'husband's mother'), OCS _svekry_ 'husband's mother', Rus _svekróvĭ_ 'husband's mother', Alb _vjehërr_ (< older _vjehërrë_) 'mother-in-law' (refashioned after _*u̯éskuros_), Grk _ἑκυρᾱ́_ 'husband's mother' (refashioned after the masculine _ἑκυρός_), Arm _skesur_ 'husband's mother' (refashioned after masculine _*skek̂uros_), NPers _xusrū_ 'father-in-law; mother-in-law' (New Persian has generalized the inherited words for both 'father-in-law' and 'mother-in-law' to both sexes), OInd _śvaśrū́-_ 'mother-in-law'. Wide distribution indicates PIE status.

The forms for parents-in-law undergo extensive deformation in virtually all Indo-European branches which makes determining the original shape and nature of the velar stop and the position of the accent difficult. It seems clear that the word for 'mother-in-law' was derived from that of the 'father-in-law' (_*su̯ék̂uros_) and that the original feminine contained a palatal stop and was an end-stressed _u_-stem. In Baltic, Greek and Armenian, the feminine has been remodeled after the masculine. Albanian has suffered regressive assimilation, while Germanic has shifted the form to the typical _o_-stems except Norse which has a refashioned _n_-stem based on the masculine with initial accent. The original _u_-stem is preserved only in Italic, Slavic and Indic. An alternative explanation, suggested by Uli Linke, analyzes the word as _*su̯e-_ 'own' + _*kruh$_a$-_ '(outside) blood', i.e., 'own outside-blood-woman'. This ingenious explanation, which is supported by evidence from IE beliefs, unfortunately not only ignores the likelihood that the feminine form is derived from the masculine but also the palatal velar in the kinship term which is decidedly not present in _*kréuh$_a$_ '(outside) blood'.

See also FATHER-IN-LAW; KINSHIP; MOTHER. [M.E.H., J.P.M.]

Further Reading

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MOTHER'S BROTHER _see_ UNCLE

MOULD _see_ MOSS

MOUNTAIN _see_ HILL

MOURN _see_ GRIEVE

MOUSE

***mū́s ~ *múss** (gen. ***musós**) 'mouse'. [_IEW_ 752–753 (*mūs); Wat 43 (*mūs); GI 449 (*mūs-); Buck 3.63]. Lat _mūs_ 'mouse', ON _mūs_ 'mouse', OE _mūs_ 'mouse' (> NE _mouse_), OHG _mūs_ 'mouse', OCS _myšĭ_ 'mouse', Rus _myš_ 'mouse', Alb _mi_ 'mouse', Grk μῦς 'mouse', Arm _mukn_ 'mouse', NPers _mūs_ 'mouse', Oss _myst_ 'mouse', OInd _mū́ṣ-_ 'mouse', TochB (pl.) _maścītsi_ 'mice, rats'. Widespread and clearly old in IE. Possibly originally a root noun, *'the stealer', from *meus- 'steal, remove'. A similar semantic association is perhaps to be seen in Hittite where the word for 'mouse', _kapirt_, may reflect a PIE *kom-bhēr-t, a derivative of *bher-, usually 'carry, bear', in its secondary meaning 'steal' (cf. Lat _fūr_ 'thief'). An apparent denominative verb, derived from the Proto-Anatolian ancestor of _kapirt_, may exist in Lydian _kabrdokid_ 'steal'.

***pélus** (gen. ***p(l̥)lóus**) 'mouse'. [cf. _IEW_ 804–805 (*pel-)]. OIr _luch_ 'mouse', Wels _llyg_ 'mouse' (Celtic < *pluko-), Bulg _plach_ 'rat', SC _pṻ_ 'dormouse', Rus _polokhók_ 'dormouse' (Slavic < *pŭlxŭ < *plŭxŭ < *plukso-), Wakhi _pürk_ 'mouse', Shughni _pūrg_ 'mouse' (Iranian < *paruka- < *peluko-). The distribution of attestations suggests that we have here at least a late PIE word for 'mouse' < *'gray one' (from *pel- 'be gray'). OPrus _pele-_ 'mouse', Lith _pelė̃_ 'mouse', Latv _pele_ 'mouse' represent an independent Baltic creation from the same root.

***gl̥h$_1$ī́s** 'dormouse?'. [_IEW_ 367 (*g$_e$li-)]. Lat _glīs_ 'dormouse', Grk γαλέη 'weasel' (< *'± mouser'; cf. Lat _mūstēla_ 'weasel' < *mūs-dhers-leh$_a$- 'mouse-grabber'), Ormuri _gilak_ 'rat', Bakhtiari _girza_ 'rat' (Iranian < *gl̥h$_1$i̯o-), OInd _giri-_ ~ _girikā-_ 'mouse'. Sufficiently widespread to reflect PIE age.

We evidently have three words that can be plausibly reconstructed as meaning 'mouse' in PIE, *mū́s, *pélus, and *gl̥h$_1$ī́s. If the distinction in Latin is anything to go on, one might suggest translations as 'mouse' and 'dormouse' respectively for *mū́s and *gl̥h$_1$ī́s, the latter including any one of a group of species, among which we could number the garden dormouse (_Eliomys quercinus_), the forest dormouse (_Dryomys nitedula_), the fat dormouse (_Glis glis_), and the common (= hazel) dormouse (_Muscardinum avellanarius_). Such a distinction, however, is by no means certain and there are at least nine other species of rodents, living in relevant parts of Europe, that may well have been called 'mouse' by early IE speakers. In all contemporary IE languages *mūs has as the focal point of its meaning the species _Mus musculus_ which is ubiquitously commensal with man. However, it is not altogether clear that that commensality had begun with man in those parts of Europe where PIE may have been spoken at the time when it was spoken. The rat, of course, is an animal of Asia and only introduced into Europe in historically recent times.

The distribution of the mouse covers all Eurasia; however, it is very rarely attested on archaeological sites of the prehistoric period, no doubt because it fulfilled no evident economic role. Later, in early Greece, mice were employed for both fortune-telling (Pliny) and medicinal purposes, e.g., mouse blood, cock's gall and a woman's milk was the recommended remedy for cataracts according to Galen while mouse blood also was used to cure warts (Hippocrates). Mice also had broadly healing uses in Hittite ritual. In the folklore of a number of IE stocks the mouse is conceived of as blind and hence related to the mole.

See also MAMMALS; MEDICINE; MUSCLE; STEAL. [D.Q.A., J.P.M.]

Further Reading

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MOUTH

***h$_{1/4}$óh$_1$(e)s-** (gen. ***h$_{1/4}$eh$_1$sós**) 'mouth'. [_IEW_ 784–785 (*ōus-); Wat 46 (*ōs-); GI 714 (*ois-); Buck 4.24]. MIr _ā_ 'mouth', Lat _ōs_ 'mouth', ON _ōss_ 'mouth of river', Hit _a(y)is_ (gen. _issās_ < *i(h$_{1/4}$)h$_1$sós with prothetic vowel *-i-) 'mouth' (nom./acc. reflects putative PIE *h$_{1/4}$óh$_1$es), Luv _āss-_ 'mouth', Av _āh-_ 'mouth', OInd _ā́s-_ 'mouth'. Widespread and old in IE.

***h$_x$oust-eh$_a$-** 'mouth, lip'. [_IEW_ 784–785 (*əus-tā); Wat 46 (*ōs-to-); GI 714 (*ous-t^h-); Buck 4.24]. Lat _ōstium_ 'mouth of a river', OPrus _austo_ 'mouth', Lith _uostà_ 'mouth of river', _úostas_ 'port, harbor', Latv _uosts_ 'harbor', _ap-aũši_ (< *-austi̯o-) 'halter', OCS (pl.) _usta_ 'mouth', _ustĭna_ 'lip', Rus _ústĭje_ (< *h$_x$oustii̯om) 'mouth of river', Av _aošt(r)a-_ 'lip', OInd _óṣṭha-_ (< *h$_x$óust-h$_x$-os) 'lip'. The initial vowel in Latin, Lithuanian, and Latvian (_uosts_) has been influenced by that of *h$_{1/4}$óh$_1$os 'mouth'. It is conceivable, if not demonstrable, that *h$_x$oust- is ultimately related to *h$_a$óus- 'ear', perhaps both from a more general meaning '± orifice'.

***stómn̥** 'mouth'. [_IEW_ 1035 (*stomen-); Wat 67 (stə-men-); Buck 4.24]. Wels _safn_ 'jawbone', Grk στόμα 'mouth', Hit _istaman-_ 'ear', Luv _tūm(m)an(t)-_ 'ear' (Anatolian < *'orifice'), Av _staman-_ 'maw'. The Germanic group represented by NHG _stimme_ 'voice' (< Proto-Gmc *stemnō 'voice' [< *'that of the mouth']) represents a derivative. Another derivative is to be seen in Hit _ista(n)h-_ 'taste, try (food or drink)' from PIE *stem-h$_2$-.

***ghéh$_a$(u)-mr̥** (gen. **-mnós**) 'interior of mouth (e.g., gums, palate)'. [_IEW_ 449 (*ĝhēu-); Wat 23 (*ghēu-); BK 234 (*ga-/*gə-)]. ON _gōmr_ 'palate, gums', OE _gōma_ 'inside of mouth or throat; gums' (> NE _gums_), OHG _guomo_ ~ _goumo_ ~ _giumo_ (where _giumo_ is certainly secondary and _goumo_ may be) 'palate', Lith _gomurỹs_ 'palate', Latv _gāmurs_ 'windpipe, larynx'. A "northwesternism" in late PIE.

***u̯ólsu̯om** 'gums'. Grk οὖλον 'gums', OInd *bársva-* (dissimilated from **vársva-*) 'gums'. Apparently a dialectal term in late PIE. From **u̯els-* 'bulge, be padded'.

See also ANATOMY; CHIN; JAW; LIP; TONGUE; TOOTH. [D.Q.A.]

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MOVE

***meu(h_x)-** 'move'. [*IEW* 743 (**meu̯-*); Wat 42 (**meuə-*); Buck 10.11]. Lat *moveō* 'set in motion', Lith *máuju* 'put on or off', Grk (aorist) ἀμεύσασθαι 'surpass, outstrip', ἀμύνω 'ward off', ἀμύνομαι 'defend oneself against', Hit *mauszi* 'falls', Av *ava-mīva-* 'take away', OInd *mīvati* 'shoves, pushes, sets in motion', TochA *mew-* 'shake, quake', TochB *miw-* 'shake, quake' (the Indo-Iranian and Tocharian < **meih$_x$-u̯-* by dissimilation from **meuh$_x$-u̯-*). Widespread and old in IE.

***meus-** 'move; remove'. [*IEW* 743 (**meu-s-*)]. OHG *chrēo-mōsido* 'grave-robbery', Khot *muśśa* (< **muš-ya-*) 'robbers', OInd *muṣṇáti* ~ *móṣati* 'steals', TochAB *musnā-* (TochB subj. *muṣä-/muse-*) 'lift, move (aside)', *musk-* 'disappear', TochB *mäs-* (< **mus-*) 'go'. An old enlargement of the preceding verb which was also widespread in IE. On both the eastern and western fringes of the IE territory, it shows a tendency (not shared by Tocharian) to come to mean 'steal'; cf. PIE **mūs* 'mouse'.

***dheu(h_x)-** 'be in (com)motion, rise (as dust or smoke)'. [*IEW* 261–263 (**dheu-*); Wat 14 (**dheu-*); GI 177 (**d^{h}euH-*)]. Lat *suf-fiō* 'smoke', ON *dȳja* 'shake', OCS *dunǫ* 'blow', Rus *dúju* 'blow', Alb *deh* ~ *dej* (< **dheu-sk̑e/o-* ~ **dheu-ni̯e/o-*) 'intoxicate, make drunk', Grk θύω 'rush on', θῡνέω 'dart along', Arm *de-dev-im* 'shake', Av *dvažaiti* 'flutters', OInd *dhūnóti* ~ *dhunáti* 'shakes, moves about, kindles a flame'. The basic meaning is illuminated by some nominal derivatives: ON *daunn* 'stench', *dūnn* 'down' (borrowed > NE *down*), Goth *dauns* 'smoke, dust', Lith *dujà* 'dust', *dujė* 'down', OInd *dhūli-* 'dust', TochA *twe* 'dust', TochB *tweye* 'dust'. Widespread and old in IE.

***$h_1$rei-** 'move' (pres. ***$h_1$rinéuti**). [*IEW* 330–331 (**erei-*); Wat 54 (**rei-*)]. ON *rinna* 'flow, run', OE *rinnan* 'flow, run, swim' (> NE *run*), OHG *rinnan* 'flow, run, swim', Goth *rinnan* 'run, walk, go', OCS *vy-rinǫti* 'thrust out', Grk ὀρῑνω 'stir', (Arcadian) ἐρῑνύω 'be angry at', OInd *ríṇvati* 'lets flow', TochAB *rin-* 'renounce'. Cf. the derivatives **$h_1$roi̯os*: OCS *rojĭ* 'bee-swarm', OInd *raya-* 'stream, run, haste'.

?*$h_1$eig- 'move' (pres. ***$h_1$éige/o-**). [*IEW* 13–14 (**aig-*)]. ON *eikinn* 'furious', OCS *igrati* 'play', Grk ἐπείγω 'drive on', OInd *éjati* 'stirs, moves'. It is not altogether certain that all these words belong together. If they do, the geographical distribution would argue for a word of PIE date.

See also COME; FLOW; GO; HURRY; MOUSE; SET IN MOTION; SMOKE; STEAL. [D.Q.A.]

MOW *see* HARVEST

MULBERRY

***mórom** 'blackberry'. [*IEW* 749 (**moro-*); Wat 43 (**moro-*); GI 555-557 (**moro-*); BK 532 (**mur-/*mor-*)]. Wels *merwydd(en)* 'mulberry', Lat *mōrum* 'mulberry, blackberry', *mōrus* 'mulberry tree', Grk μόρον 'mulberry, blackberry', μορέα 'mulberry tree', Arm *mor* 'blackberry', *mori* 'blackberry vine', Hit *muri-* '(bunch of) grape(s)', despite the unexplained difference of vowel.

The two main meanings of the cognates are motivated by the fact that the tender and juicy fruits of the blackberry are similar in taste and shape to those of the mulberry. Thus Lat *mōrum* denotes or has at least been translated as 'mulberry' in Horace and 'blackberry' in Virgil. The Greek form has been glossed 'mulberry', 'blackberry' and, even more specifically 'black mulberry'. Armenian helps supplement the classical languages and the Celtic cognate is unlikely to reflect a Greek loan as has sometimes been alleged. In both northern and Mediterranean Europe, the mulberry was grown for what is in general its main use: sericulture. At another cultural level, Greek myth has it that the red mulberry had its origin in the white when the roots of the latter were stained by the blood of the suicidal lovers Pȳramus and Thisbē.

See also BERRY; PLANTS; TREES. [P.F.]

MURMUR

?*murmur- 'murmur'. [*IEW* 748 (**mormor-* ~ **murmur-*); Wat 43 (**mormor-*); BK 547 (**mur-/*mor-*)]. Lat *murmurō* 'murmur', OHG *murmurōn* 'murmur', Lith *murménti* 'murmur', Grk μορμύρω 'murmur', Arm *mrmram* 'murmur', OInd *marmar-* 'roaring'. Clearly onomatopoeic but perhaps reflecting a late PIE onomatopoeic word rather than independent creations in the various stocks that have it.

See also SPEAK; STAMMER. [D.Q.A]

MUSCLE

***mūs(tlo)-** '(little) mouse; muscle'. [*IEW* 752–753 (**mūs*); Wat 43 (**mūs*)]. Lat *mūsculus* 'little mouse; muscle', Khot *mūla-* 'mouse; muscle', *mūlāna-* 'calf (of leg)'. Cf. also OHG *mūs* 'mouse; muscle' (especially of the upper arm)', Arm *mukn* 'mouse; muscle', Grk μῦς 'mouse; muscle'. The metaphorical leap from 'mouse' to 'muscle' (based presumably on the perceived similarities of certain muscles, such as the biceps, when contracting, to a mouse's movements, say, under a cloth) is sufficiently odd that it is unlikely to have happened independently in so many IE groups. Therefore, the metaphor must be of PIE antiquity. The form **mūs-tlo-* may very well also be old since **-tlo-* is not common as a diminutive marker.

See also ANATOMY; MOUSE; TENDON. [D.Q.A.]

MUSSEL *see* SHELLFISH

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NAIL

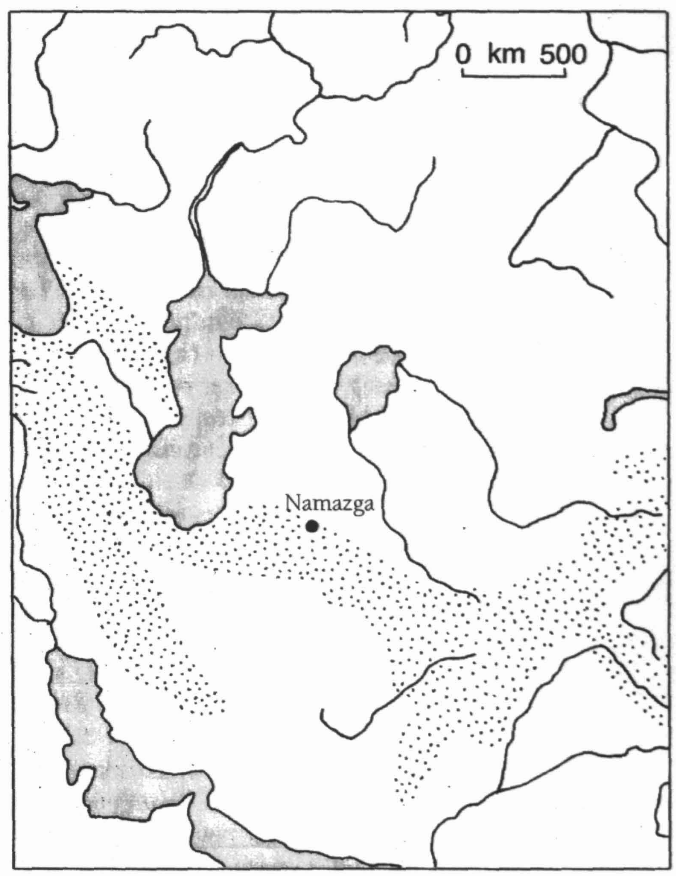
$h_3$nogh(u̯)- '(finger- or toe-)nail'. [*IEW* 780 (**onogh-*); Wat 45 (**nogh-*); cf. GI 60; Buck 4.39]. OIr *ingen* 'nail', OWels *eguin* 'nail', Lat *unguis* 'nail, claw', *ungulus* 'hoof', ON *nagl* 'nail', OE *nægel* 'nail' (> NE *nail*), OHG *nagal* 'nail', OPrus *nage* 'foot', Lith *nãgas* 'nail, claw', *nagà* 'hoof', Latv *nags* 'nail', OCS *noga* 'foot, leg', *nogŭtĭ* 'nail', Rus *nogá* 'foot, leg', Grk *ὄνυξ* 'nail', NPers *nāxun* 'nail', OInd *áṅghri-* 'foot', *nakhá-* (with *-kh-* for expected *-gh-*) 'nail, claw', TochA *maku* (pl.) 'nails', TochB *mekwa* (pl.) 'nails' (< **nekwā*). The PIE word for 'nail'.

See also ANATOMY; FOOT; HAND. [D.Q.A.]

NAKED *see* BALD

NAMAZGA

The site of Namazga-depe is the type site for the Namazga culture and with its 24 m of material provides the backbone of periodization for southern Turkmenistan, an area critical for the discussion of the movement of early Indo-Iranian speakers. Namazga I dates to the fifth millennium BC and marks the early Eneolithic period. Sites have yielded domestic animals (cattle, sheep/goat and some pig) and evidence for the hunting of onager. Namazga II (*c* 4000–3500 BC) sees more impressive architectural evidence of stone-built fortifications (with circular towers) and the erection of shrines with their corners oriented to the cardinal directions, raised altars and an ash-sump for offerings. Although wheat was raised, it was in insignificant amounts compared with barley and cattle were outnumbered by sheep/goat. Namazga III (*c* 3500–3000 BC) sees the appearance of extensive irrigation systems and the rise of urbanization in the region which increases markedly in the next period, Namazga IV (*c* 3000–



Namazga Location of the site of Namazga.

2500 BC). Namazga IV also sees the first unequivocal evidence for wheeled vehicles, models of vehicles drawn by camels or bulls. Metallurgy is more advanced and involves the deliberate

alloying of copper, lead and silver. Namazga V (*c* 2500–2100 BC) sees the final urban expansion in the region with major sites such as Altyn-depe which occupied an area of some 25 ha. Namazga VI (*c* 2100–1700 BC) represents an urban collapse in the local region although it is also coincidental with the rise of the Bactrian-Margiana Archaeological Complex (BMAC). Reasons for the collapse are diverse (environmental deterioration, over-urbanization, shifting trade-routes) and include incursions of steppe tribes (Andronovo culture) which are generally connected with some phase of Indo-Iranian expansions. The smaller Namazga VI settlements indicate the introduction of the horse to the region and also there are traces of spoked-wheeled vehicles. All of these have been taken to indicate an intensification of an Indo-Iranian presence in southern Turkmenistan.

See also **BMAC**; **Djeitun Culture**; **Indo-Iranian Languages**. [J.P.M.]

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NAME

$h_1$nómn̥ (or ***$h_1$énh$_3$mn̥*** or ***$h_1$néh$_3$mn̥***?) 'name'. [*IEW* 321 (**en(o)mn̥-*); Wat 45 (*ə)noə-mn̥*); GI 732 (**nom(e/o)n*); Buck 18.28; BK 569 (**in-im-/*in-em-*)]. OIr *ainm* (*DIL ainmm*) 'name', OWels *anu* 'name', Lat *nōmen* 'name', ON *nafn* 'name', OE *nama* 'name' (> NE *name*), OHG *namo* 'name', Goth *namō* 'name', OPrus *emens* 'name', OCS *imę* 'name', Rus *ímja* 'name', Alb *emër* (Gheg *emën*) 'name', Grk *ὄνομα* 'name', Arm *anun* 'name', Hit *lāman* 'name', OInd *nā́ma* 'name', TochA *ñom* 'name', TochB *ñem* 'name' (Toch < **h_1nḗmn̥* or **$h_3$néh$_1$mn̥* metathesized from **h_1n̥éh$_3$mn̥*). We can also reconstruct a phrase **$h_1$nómn̥ dheh$_1$-* 'to set a name, give a name' [GI 732] found in several stocks: OCzech *dieti jmě*, Grk *ὀνοματοθέτης* 'name-giver', Hit *lāman dā-*, HierLuv *atamain tuha* 'gave a name', Av *nāmąn dā-*, OInd *nā́ma dhā-*, TochA *ñom tā-*, TochB *ñem tā-*. These constructions, which employ the root **dheh$_1$-* 'put, set, establish' (cf. 'Believe', 'Law') often have a particular sacred or ritual association and there is widespread evidence that the giving of a name also established the identity of the named, i.e., was an essential part of his/her own persona and power and expressed an individual's true essence. There is also a widespread denominative verb 'to name': ON *nefna* 'name', OE *nemnan* 'name', OHG *nemnen* 'name', Goth *namnjan* 'name', Grk *ὀνομαίνω* ~ *ὀνομάζω* 'name', Hit *lam(ma)niya-* 'name', but these are all likely to be independent formations in the various stocks in which they occur. The distribution of the noun 'name' clearly supports PIE status; however, the reconstructed form(s) underlying this series of cognates has long been discussed and argued and the exact phonological relation between all the attested forms remains disputable.

Indo-European Personal Names

A broad similarity among the personal names of the earliest attested Indo-European peoples reveals a series of patterns that can probably be projected back to the proto-language itself. Unfortunately, the system is so pervasive and productive (and personal names are continuously "invented") that it has generally been found very difficult to demonstrate that forms in two or more stocks, no matter how similar, are necessarily inherited from PIE rather than independent creations.

Personal names among the early Indo-Europeans may consist of either a single lexeme or two elements, e.g., ON *Ulfr* 'Wolf' or *Kveld-Ūlfr* 'Evening Wolf'. A "long" name consisting originally of two lexemes may be abbreviated, e.g., OInd *Rudra-ṭa* (< **Rudra-bhaṭ(ṭ)a*). The source of names would be drawn from various classes of phenomena. Deities (and names expressing relationships with deities) are particularly common, e.g., Gaul *Lugus* (the Celtic god Lug), *Lugudeca* 'chosen by Lug', *Luguselva* 'possessed by Lug', *Lugenicus* 'born of Lug'. The relationship may also be with a metaphysical quality associated with the world of the sacred, e.g., OIr *Medb* 'intoxication', Lat *Augustus* 'possessed of spiritual power', Av *X^varonbaxša* 'having well being as his share', OInd *Bhūtāṃśa* 'having living beings as his share'. Some of the few names suspected of being cognate between stocks are built on an element meaning 'fame', e.g., Grk ***Εὐκλεής***, OInd *Suśráva-* both 'whose fame is wide'; OCS *Sobēslavī*, Grk ***Σοφοκλῆς*** both 'wise-famous'. Physical attributes may also be selected, e.g., Lat *Dentātus* 'big-toothed', ON *Grani* 'slender'. Names of weapons and arms (e.g., OInd *Jyāmagha-* 'who fights with a bow') were popular as well as animal names which frequently supply one of the elements of a name, e.g., words for canines seen in OIr *Cū* 'Hound', *Olc* 'Wolf', OE *Wulf* 'Wolf', Grk ***Λύκος*** 'Wolf', ***Λυκοφόντης*** 'Wolf-killer', OInd *Vṛ́ka-* 'Wolf'; 'cow' seen in the comparable forms of OIr *Boänd* (cf. the name of the Boyne, *Bovinda*) 'White-cow', OInd *Govinda-* 'White-cow'; or the horse, e.g., OIr *Eochu* 'Horse'. The names of plants, e.g., Lat *Cicerō* 'Chick-pea', are also to be found. Numbers are frequently found as elements in names and, as there appears to be a general trend for the widespread use of numbers in earlier texts and lesser use in later, it has been suspected that the use of naming with numbers was an archaic practice, e.g., Lat *Quārta*, Lith *Keturai*, Rus *Četvertoj*, Myc *Qe-ta-ra-je-u*, Grk ***Τεταρτίων*** all 'Fourth', or the mythological figure of OInd *Tritá* 'Third'. With respect to the employment of deities in IE names, T. Markey has suggested that while we find clear instances of the names of deities in IE personal names and what we may presume to be totemic references, e.g., OIr *Bodb* 'Raven' (a bird especially associated with the god Lug), we do not find totem and deity together in the same name, e.g., ON *Ōðinulfr* 'Ōðinn's wolf' (but cf. Grk ***'Αρηίλυκος*** 'Wolf for Arēs'), and this argues against the presumption that the early Indo-Europeans employed totemism, i.e., divided themselves into clans or other descent groups which had specific ritual associations with animals or plants.

See also **Fame**; **Poetry**. [E.C.P., J.P.M.]

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NARROW

***$h_a$enĝhus** 'narrow'. [*IEW* 42 (**anĝhú-s*); Wat 2 (**angh-*); GI 683 (**Hanĝhu-*); Buck 12.62]. OIr *cumgae* 'strangling, suffocation', *cumung* (< **kom-n̥ghu-*) 'narrow, restricted', Wels *eang* (< **eks-n̥ĝhu-*) 'wide', Lat *angi-portus* 'narrow street, cul de sac', ON *ǫngr* 'narrow', OE *enge* 'narrow', OHG *angi* 'narrow', Goth *aggwus* 'narrow', Lith *añkštas* 'narrow', MPers *hnzwg-* 'narrow', OInd *aṃhú-* 'narrow'. Other possible cognates include: OCS *ozŭkŭ* 'narrow', Grk *ἀμφήν* 'neck' although doubtful, Arm *anjuk* 'narrow' appears to be an Iranian loan. Even excluding the Greek form, this word is likely to be PIE. The concept of narrowness or constriction also underlies the PIE notion of 'fear' which is reflected in the modern German cognate *angst* 'fear' and OInd *áṃhas-* 'fear'.

?*sten- 'narrow'. [*IEW* 1021–1022 (**sten-*); Wat 66 (**sten-*)]. ON *stinnr* 'stiff, hard', OE *stīþ* 'stiff' (Gmc < **sten-to-*), Grk *στενός* 'narrow'. Restricted to two branches, with both the Germanic and Greek etymologies unclear, although possibly connected, but still very weak grounds for positing a PIE form.

See also FEAR; LONG; NECK; PAIN; THIN. [J.C.S.]

NAVE

***$h_3$nobh-** 'navel; nave'. [*IEW* 314–315 (**nŏbh-*); Wat 45 (**nobh-*); GI 716 (**nob^h-*); Buck 4.43]. ON *nǫf* 'nave of wheel', OE *nafu* 'nave' (> NE *nave*), OHG *naba* 'nave', OPrus *nabis* 'navel, nave', Latv *naba* 'navel', OInd *nábhya-* 'nave'. Sometimes put here also is Arm *aniw* 'wheel' though there are phonological irregularities (one would expect **anow* or the like). The 'nave' is named after its resemblance to the 'navel' (in Old Prussian a single word retains both meanings). Usually the word for 'navel' (the original meaning) is in form a morphological derivative of the word for 'nave', thus OIr *imbliu* ~ *imbliu* 'navel', Lat *umbilīcus* 'navel', *umbō* 'boss on shield', ON *nafli* 'navel', OE *nafela* 'navel' (> NE *navel*), OHG *nabalo* 'navel', *amban* 'belly', Grk *ὀμφαλός* 'navel; boss of shield', OInd *nā́bhi-* 'navel'. The semantic and morphological relationship between the words for 'nave' and 'navel' is similar to that between the words for 'axle' and 'shoulder(-joint)'. The metaphorical extension of 'navel' to 'nave' is widespread and old in IE. In Germanic the word for 'auger' derives from a special technical term for the tool employed in boring the nave, i.e., ON *nafarr*, OE *nafo-gār*, OHG *naba-gēr* (< Gmc **naba-gaizaz*) '(nave-) auger'; cf. NE *auger* < **a nauger* by false analysis.

See also AUGER; AXLE; WAGON; WHEEL. [D.Q.A.]

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NAVEL

***$h_3$nobh-** 'navel, nave'. [*IEW* 314–315 (**nebh-*); Wat 45 (**nobh-*); GI 716 (**nob^h-*); Buck 4.43]. OIr *imbliu* ~ *imbliu* 'navel', Lat *umbilīcus* 'navel', *umbō* 'boss on shield', ON *nafli* 'navel', *nǫf* 'nave of wheel', OE *nafela* 'navel' (> NE *navel*), *nafu* 'nave' (> NE *nave*), OHG *nabalo* 'navel', *naba* 'nave', *amban* 'belly', OPrus *nabis* 'navel, nave', Latv *naba* 'navel', Grk *ὀμφαλός* 'navel', OInd *nā́bhi-* 'navel', *nā́bhya-* 'nave'. The 'nave' is named after its resemblance to the 'navel', though often 'navel' (the original meaning) is in form a morphological derivative (similarly with **$h_a$eks-* 'shoulder[-joint]' and 'axle'). Clearly the PIE word for this meaning.

See also ANATOMY; NAVE. [D.Q.A.]

NEAR

***$h_1$epi** ~ ***$h_1$opi** 'near, on'. [*IEW* 323 (**epi* ~ **opi*); Wat 17 (**epi*)]. OIr *iar* (*DIL* *īar*) 'after', Lat *ob* 'towards', OPrus *ep-* 'about', Lith *ap-* 'about', Latv *ap-* 'about', OCS *ob* 'on', Alb *epërë* (< **$h_1$opi-reh$_2$*) 'upper', *epër* 'upper, superior', *epërt* (adj.) 'top', Myc *o-pi* 'on, near', Grk *ἐπί* 'on, upon, up to', *ὄπισθεν* 'behind', Arm *ev* 'and, also', Av *aipi* 'upon', OInd *ápi* 'also, in addition', TochAB *p-* (verbal prefix). Old in IE.

See also ADPREPS. [D.Q.A.]

NECK

***monis** ~ ***moneh$_a$-** 'neck'. [*IEW* 747–748 (**mono-*); Wat 43 (**mon-*); GI 715 (**mono-*)]. OIr *muin* 'neck', Wels *mwn* 'neck', ON *mǫn* 'mane', OE *manu* 'mane' (> NE *mane*), OHG *mana* 'mane', Av *manaoθrī* 'neck', OInd *mányā* 'nape'. Though not extraordinarily well-attested, this word is the most likely to be the PIE word for 'neck'. Cf. also the extensions of this root that indicate 'necklace': Lat *monīle* 'necklace', OCS *monisto* 'necklace', Av *minu-* 'necklace', OPers *bara-man-* 'one who wears a necklace', Mitanni *mani-(nni)* 'necklace'.

***g^{w}rih$_x$u̯-eh$_a$-** 'neck'. [*IEW* 474–475 (**g^{u}rī-u̯ā*); BK 361 (**q^{w}ur-/*q^{w}or-*)]. Latv *grīva* 'river mouth', OCS *griva* 'mane', Rus *griva* 'mane', Av *grīvā* 'neck (of demonic being)', OInd *grīvā́* 'neck'. Related is Grk *δέρη* (< **g^{w}eru̯eh$_a$-*) 'neck'. Related in some way to **g^{w}er(h$_3$)-* 'swallow'. At least a word of the

center and east of the IE world.

***kólsos** 'neck'. [cf. *IEW* 639–640 (*$k^{u}ol$-*so-*)]. MIr *coll* 'head, chief', Lat *collus* 'neck', ON *hals* 'neck', OE *heals* 'neck', OHG *hals* 'neck', Goth *hals* 'neck'. From **kel-* 'raise' [*IEW* 544 (**kel-*)]. A "westernism" in late IE.

***$h_a$enĝh(u̯)én-** 'neck'. [*IEW* 43 (**anĝh-*)]. Goth *hals-agga* 'nape of neck', Rus *vjazī* 'nape', Grk (Aeolic) *ἄμφην* 'nape', (Attic) *αὐχήν* 'nape' (< **ankhwen-*?), Arm *awjik'* (pl.) 'neck'. From *$h_a$enĝh-* 'narrow'. A late PIE word.

See also ANATOMY; NARROW; NECKLACE. [D.Q.A.]

NECKLACE

?*mono/i- 'neck ornament'. [*IEW* 747–748 (**mono-*); cf. Wat 43 (**mon-*)]. OWels *minci* 'collar, necklet' (borrowed > OIr *muince* 'collar, necklet'), Gaul (in Greek) *μανιάκης* 'Celtic necklace', Lat *monīle* 'necklace, collar', ON *men* 'necklace', OE *mene* 'necklace, collar', OHG *menni* 'neck ornament', OCS *monisto* 'necklace', Av *zarənu-maini-* '(bird) with golden neck ornament', OPers *ba-ra-man-nu-iš* '(horse) bearing a collar', OInd *maṇi-grīvá-* 'carrying a neck ornament'. From **mono-* 'neck'. A metaphorical extension or a derivative of a word for 'neck, mane', probably of at least late PIE date.

Necklaces are well known in the archaeological record since the Upper Palaeolithic, i.e., since the appearance of anatomically modern humans, and self-adornment has been regarded as one of the characteristic behavioral shifts from earlier forms of human (Neanderthal) society to those of modern populations. Necklaces are encountered widely in all subsequent periods and it would be nearly impossible to imagine that the speakers of the proto-language did not know and employ them. For the Neolithic period, the evidence for necklaces is varied. There is widespread evidence of necklaces composed of bone, animal teeth such as deer incisors, claws, shell, and stone, some of which may have been acquired through extensive exchange systems. By the Bronze Age we find the use of bronze beads as well as precious metals (gold, silver) in the manufacture of beads. At this time there was also an extensive exchange system in both amber beads and, occasionally, in beads made of faience, a primitive form of glass.

See also NECK. [D.Q.A., J.P.M.]

Further Reading

Mayrhofer, M. (1974) Ein neuer Beleg zu der indogermanischen Sippe für "Halsschmuck", in *Antiquitates Indogermanicae*, eds. M. Mayrhofer, W. Meid, B. Schlerath, R. Schmitt, Innsbruck, 19–21.

NEEDLE (OF A TREE) *see* BRANCH

NEPHEW

***népōts** (gen. ***népotos**) 'grandson; ?nephew'. [*IEW* 764 (**nepōt-*); Wat 44 (**nepōt-*); GI 669 (*$nep^h\bar{o}t^h$-*); Buck 2.48; Szem 9; Wordick 155–65; BK 573 (*$n^yip[^h]$-/*$n^yep[^h]$-*)]. In the meaning '± nephew': OIr *nia* ~ *niae* 'sister's son', Wels *nai* 'nephew', Corn *noy* 'nephew' (glossed by Lat *nepōs*, presumably in the latter's medieval meaning 'nephew' rather than its classical meaning 'grandson'; there is no warrant for 'sister's son'), MBret *ni* 'nephew', Lat *nepōs* 'grandson; granddaughter; descendant' (in later Imperial and Medieval Latin also 'nephew'), ON *nefi* 'descendant', OE *nefa* 'grandson, sister's son', OHG *nefo* 'sister's son; (paternal/maternal) cousin', Alb *nip* 'grandson, nephew'. Derivatives: OCS *netijī* 'nephew' < **nept-ii̯o-* and Grk *ἀνεψιός* 'cousin' (< **sm̥-neptii̯o-* 'co-grandson'), Wels *cefnder* 'male cousin', *cyfnither* 'female cousin' (< **kom-nepōt-* and *kom-$neptih_a$-* 'co-grandson/daughter' respectively). This word also may mean 'grandson, descendant'. In the meaning 'nephew', the word is confined to the west and center of the IE world.

***su̯esrós** ~ ***su̯esrii̯ós** 'pertaining to a sister, sisterly; sister's son'. [*IEW* 1051 (**su̯esor-*); cf. Wat 68 (**swesor-*); GI 666 (*s^oesor-*); Szem 6; Wordick 144–145]. OSwed *swiri* 'mother's sister's son', OE *swor* ~ *(ge)sweor* 'mother's sister's son', *geswirga* 'sister's son; mother's brother's/sister's son, father's sister's son', Arm *k'eṙi* 'mother's brother', Sanglechi *xīr* 'sister's son', Munji *xurī* 'sister's son', Shughni *xār* 'nephew, niece', Yazgulyami *xwer* 'nephew, niece' (< Proto-Iranian **hwahrya/ā-*), Ashkun *paší* 'sister's daughter', OInd *svasrī́ya-* 'sister's son', *svasrīyā-* 'sister's daughter', Gawar-Bati *pēšī* '(a man's) sister's son, sister's daughter' (Nūristāni and Indic < **svasrīya/ā-*). Assuming 'sister's son' as the oldest meaning allows us to explain Arm 'mother's brother' as an example of reciprocal naming (cf. OIr *aue* 'grandson' from *h_2euh_2os* 'grandfather' or OHG *enikl* 'grandson' from *ano* 'grandfather'). In Germanic we find the further derivative **ga-swerjan-* 'co-sister's son' (much as in Lat *consōbrīnus* 'mother's brother's/sister's son, father's sister's son' < *'co-sister's son'), though there has been considerable confusion and overlapping of the earlier and later meanings. Widespread and old in IE

?*$su̯esrih_x nos$ 'sister's son'. [*IEW* 1051 (**su̯esr-īnos*); Wat 68 (**swesr-īno-*)]. Lat *sobrīnus* 'second cousin', *consobrīnus* 'mother's sister's son; (any) cousin', Lith *seserė̃nas* 'sister's son', OCS *sestrinŭ* 'of the sister'. The Latin and Old Church Slavonic words agree in form, but it is probably the Old Church Slavonic word that preserves the original adjectival meaning of which Latin is a nominalization. The Lithuanian word given here is, in any case, morphologically distant, though showing the same kind of semantic development seen in Latin. The meaning 'sister's son' for *$su̯esrih_x nos$* is probably not of PIE age, though 'sister's son' as the nominalization of another adjective meaning 'pertaining to a sister' is seen in the evidence of the preceding word.

?*$bhreh_a truii̯os$ 'brother's son'. [Szem 13–14]. Late Lat *frātruēlis* 'brother's son', Av *brātūirya-* 'brother's son', OInd *bhrā́tṛvya-* 'brother's son'. Cf. also Lith *brólėnas* '(first) cousin'. Independent creations in Latin and Indo-Iranian from an adjective meaning 'pertaining to the father'.

The first term, **népōts*, exhibits a semantic range that within attested IE languages embraces both 'grandson' and 'sister's son, nephew' and the antiquity of this semantic complex is

one of the major issues with regard to reconstructing the nature of the PIE kinship system. Those who argue that the original meaning of this word was confined to the 'grandson' suggest that the meaning 'nephew' was secondary in all the (north)western languages in which it occurs and was a semantic innovation of the various individual IE stocks. The fact that we can see the change of Lat *nepōs* from 'grandson' to 'grandson, sister's son' taking place within the history of Latin may suggest that 'sister's son' (or, more generally, 'nephew') is everywhere a late development. Those who support the assignment of both 'grandson' and 'sister's son' to PIE see this word as primary evidence for the ascription of PIE kinship to the Omaha system where the generations would be skewed. Clearly there is a tendency to make an Omaha-like equation of 'grandson' and 'sister's son' but whether that tendency is PIE in date or post-PIE is not easy to see. The equation of 'grandson' and 'sister's son' is a sort of mirror image of the equation of 'grandfather' and 'mother's brother' though only Middle Welsh actually shows both such equations at the same time. The other terms are late and are built from the words for 'brother' and 'sister' as seen above or from 'son', e.g., SC *sinóvac* ~ *sinòvac* 'brother's son' (< *'little son').

See also **Grandson**; **Kinship**; **Son**. [M.E.H.]

Further Reading

Beekes, R. S. P. (1976) Uncle and nephew. *JIES* 4, 43–63.

NEST

nisdos 'nest', (literally) 'sit-down (place)'. [*IEW* 887 (**ni-zd-os*); Wat 45 (**nizdo-*); GI 101 (**ni-st'-os*)]. MIr *net* 'nest', Wels *nyth* 'nest', Lat *nīdus* 'nest', OE *nest* 'nest' (> NE *nest*), OHG *nest* 'nest', Lith *lìzdas* 'nest', Latv *ligzda* 'nest', OCS *gnězdo* 'nest', Arm *nist* 'site', OInd *nīḍá-* 'resting place, abode, nest'. Clearly PIE in status and derived from **ni-* 'down' or 'alone' + **sed-* 'sit', hence a 'sit-down place'.

See also **Birds**; **Sit**. [J.A.C.G.]

NET

$h_1$ekt- 'net'. Myc *de-ku-tu-wo-ko* (= */dektu-worgo-/*) 'net-makers', Grk ***δίκτυον*** '(hunting/fishing) net' (with the vowel perhaps influenced by ***δικεῖν*** 'throw'), Hit *ēkt-* 'net', Luv *aggati-* 'catch-net', OInd *ákṣu-* 'net'. The Greek forms represent neuter nouns with (prefixed?) **d-* as in the word for 'tear'. The Greek-Anatolian-Indic correspondence makes it likely that we are dealing with a PIE word here.

Nets are preserved in the archaeological record only under extraordinary conditions (waterlogging, extreme aridity) although net weights of stone or clay are frequently enough encountered; occasionally, impressions of nets in clay have also been recovered. Traces of nets are known since at least the Mesolithic and are also attested in Swiss lakeside settlements of the Neolithic period along with floats and weights. The Swiss evidence reveals nets of various mesh sizes appropriate to the size of the fish being sought. The use of the net is not confined to fishing (or hunting) but may also have been employed in carrying things as is still attested in many parts of Europe today.

See also **Fish**; **Knot**[1]; **Tool**. [D.Q.A.]

Further Reading

Poetto, M. (1992[94]). 'Net' in Anatolian, Vedic, and Greek. *MSS* 53, 159–174.

NETTLE

ned- 'nettle'. [*IEW* 758–759 (**ned-*); Wat 44 (**ned-*); GI 224 (**not'-*)]. MIr *nenaid* 'nettle', MWels *dynat* 'nettle' (Celtic < **ninati-* with dissimilation in Welsh), OE *netele* 'nettle' (> NE *nettle*), OHG *nezzila* 'nettle', Grk *ἀδίκη* 'nettle'. Presumably related in some fashion are: OPrus *noatis* 'nettle', Lith *nõterė* 'nettle', Latv *nātre* 'nettle', Slov *nât* 'nettle', though the *-t-* (rather than **-d-*) is not explained. Though showing some uncertainties of form that may reflect inter-group borrowing, this would appear to be a word of the west and center of the IE world. The nettle has a wide variety of uses. It has been employed as a textile (nettle fibres have been recovered from a Bronze Age burial in Denmark) and it can be spun into coarse sheets like hemp. Medicinal uses derive from the high iron and vitamin C content and beer and soups are prepared from nettles. From **ned-* 'knot'.

See also **Knot**[1]; **Plants**; **Thorn**. [D.Q.A.]

NEW

néu̯os 'new'. [*IEW* 769 (**neu̯os*); Wat 45 (**newo-*); GI 685 (**newo-*); Buck 14.13; BK 561 (**naw-/*nəw-*)]. Lat *novus* 'new', OPrus *neuwenen* 'new', Lith *naũjas* 'new', OCS *novŭ* 'new', Grk *νέ(ϝ)ος* 'new', Hit *nēwas* 'new', Av *nava-* 'new', OInd *náva-* 'new', TochA *ñu* 'new', TochB *ñuwe* 'new'; and with extension: **neui̯os* in OIr *nūa* ~ *nūae* 'new', Wels *newydd* 'new', ON *nýr* 'new', OE *nīwe* ~ *nēowe* 'new' (> NE *new*), Goth *niujis* 'new', Lith *naũjas* 'new', Grk (Ionic) *νεῖος* 'new', OInd *návya-* 'new'. Both forms are pan-IE in distribution and are of certain antiquity; the root is related to **nu* 'now', a thematic with a new, accented, full-grade vowel inserted in the first possible place, i.e., **nu* > **nu-o-* > **néu̯-o-*.

See also **Now**; **Old**. [P.B.]

NIECE

There are no terms reconstructible to PIE that specifically denote 'brother's daughter'. For a male speaker, the 'brother's daughter' may have been simply termed a **dhug(h$_a$)tḗr* 'daughter', resulting in later specialized forms like Irish *ingen* 'begotten' to refer to the biological daughter as opposed to the sociological 'daughter' who may have remained as *der* 'girl, daughter'. Female speakers might refer to her as 'sister', a use preserved in a single passage of Old Irish where *siur* (< **su̯ésōr*) was employed to render 'woman's brother's daughter' and possibly reflected in the Greek confusion of the two terms recorded in Hesychius' gloss *ἔορ·* ***θυγάτηρ, ἀνεψιός*** 'daughter, (male) cousin' (perhaps intended as ***θυγάτηρ ἀνεψιού*** 'cousin's daughter'). Otherwise, most words for the 'niece' are

associated with the word for 'granddaughter'.

néptih$_a$- 'granddaughter; ?niece'. [*IEW* 764 (**neptī-*); Wat 44 (**neptī-*); GI 670 (**nep^{h}ot^{h}iā*); Buck 2.49; Szem 10; Wordick 166–167; BK 573 (**n^{y}ip[^{h}]-/*n^{y}ep[^{h}]-*)]. Where the meaning is '± niece': OIr *necht* 'granddaughter; (?niece)', Wels *nith* 'niece', Corn *nyth* 'niece', Bret *niz* 'nephew; niece', Lat *neptis* 'granddaughter' (in later Imperial Latin also 'niece'), ON *nipt* 'sister's daughter', OE *nift* 'granddaughter, sister's daughter', OHG *nift* 'niece, granddaughter, sister's daughter', Lith *neptė* 'granddaughter, niece', ORus *nestera* 'niece', Alb *mbesë* (< **nepṓtieh$_a$-*) 'granddaughter, niece'. Derivatives: Grk (Hesychius) *νεόπτραι. υἱῶν θυγατέρες* 'sons' daughters'. The form of the word is more widely found but in the meaning of 'granddaughter'. Although derived from the masculine form of this word (**népōts*), the distribution indicates that the word is of PIE status in terms of morphology although confined to the west and center of the IE world according to meaning. The arguments concerning whether both the meaning 'granddaughter' and 'sister's daughter' can be attributed to the same PIE word are rehearsed in the discussions of 'grandson' and are one of the critical pieces of evidence for determining the kinship system of Proto-Indo-European since the identity of 'sister's daughter' and 'daughter's daughter' is a feature of the Omaha kinship system.

See also DAUGHTER; GRANDDAUGHTER; GRANDSON; KINSHIP; NEPHEW. [M.E.H.]

NIGHT

nek^{w}t-* ~ *nok^{w}t- 'night'. [*IEW* 762–763 (**nek^u-(t-)-*); Wat 44 (**nek^w-t-*); GI 693 (**ne/ok^{ho}t^h-*); Buck 14.42]. OIr *innocht* 'tonight', Wels *peunoeth* 'every night', Lat *nox* 'night', ON *nótt* 'night', OE *neaht* 'night' (> NE *night*); OHG *naht* 'night', Goth *nahts* 'night', OPrus (acc.) *naktin* 'night', Lith *naktis* 'night', Latv *nakts* 'night', OCS *noštĭ* 'night', Alb *natë* 'night', Grk *νύξ* 'night', Hit *nekuz* (gen. sg.) 'at night', OInd *nákt-* 'night', TochA *nokte* 'at night', *noktiṃ* 'last night', *nakcu* 'last night, at night', TochB *nekcīye* 'last night, at night' (the last two < **nok^{w}teuios*). Pan Indo-European, and clearly reconstructible for the proto-language.

n̥k^{w}tus 'end of the night'. [*IEW* 763 (**nek^u-(t-)-*); cf. Wat 44 (**nek^w-t-*); Del 195]. ON *ótta* 'early morning', OE *ūhte* 'early morning', OHG *ūhta* 'early morning', Goth *ūhtwō* 'early morning', Grk *ἀκτίς* (problematic in that one might expect **ἀπτύς*) 'ray of sunlight', OInd *aktú-* 'night, end of the night'. The word is quite possibly a suffixed zero-grade form of **nek^{w}t-* 'night'; as such it is of PIE date.

k^{w}sep- 'night'. [*IEW* 649 (**k^{u}sep-*); Buck 14.42]. Grk *ψέφας* 'dark', Hit *ispant-* 'night', Av *xšap-* 'darkness', OInd *kṣáp-* 'night'. Though somewhat limited geographically, the unanalyzable nature of the root suggests PIE status.

See also EVENING. [P.B.]

Further Reading

Markey, T. L. (1987) Morning, evening, and the twilight between, in *Proto-Indo-European: The Archaeology of a Linguistic Problem*, eds. S. N. Skomal and E. Polomé, Washington, Institute for the Study of Man, 299–321.

NIPPLE *see* BREAST

NIT *see* LOUSE

NOD

neu- 'nod'. [*IEW* 767 (**neu-*); Wat 44 (**neu-*)]. Lat *adnuō* 'agree by nodding', Grk *νεύω* 'nod', OInd *návate* 'goes, moves'. It is uncertain whether the Old Indic form belongs here. The correspondence between Latin and Greek is sufficient to postulate at least a word of the western and central region of the IE world.

[M.N.]

NOISE

Gathered here are a number of onomatopoeic formations whose exact meaning in PIE, if they are of PIE antiquity, is generally unclear.

mug- '± make a (low) noise, low, mutter, grumble'. [*IEW* 751–752 (**mū-*)]. Lat *mūgiō* 'low, bellow', OHG *muckazen* 'grumble', Grk *μύζω* 'mutter, moan, growl', Hit *mugā(i)-* 'entreat', OInd *múñjati* 'makes a noise'. The distribution of attestations strongly suggests PIE status for this word. An enlargement of **mu-* (cf. [*IEW* 751 (**mū-*); Wat 43 (**mu-*)]): Lat *mū facere* 'make a mmm sound', OHG *māwen* 'cry', Latv *maunu* 'growl', Czech *myjati* 'low (of cows)', Grk *μῦ* 'a cry'.

?*(s)prh$_x$g- 'crackle, sputter'. [*IEW* 996–997 (**(s)p(h)ereg-*); cf. Wat 64 (**spreg-*); GI 101 (**sp^{h}erG-*); Buck 18.21]. ON *spraka* 'crackle, rattle', Lith *spragėti* 'crackle', Grk *σφαραγέομαι* 'crackle, sputter, hiss', OInd *sphūrjati* 'thunders, rumbles'. While it is fairly certain that the Old Norse and Lithuanian words belong together and, likewise the Greek and Old Indic words, it is phonologically difficult to reconcile the two pairs. Perhaps independent onomatopoeic formations. Possibly related to **spreg-* 'speak'.

?*iu- '± shout (for joy)'. [*IEW* 514 (**iū*); Wat 79 (**yu-*)]. MIr *ilach* 'victory cry', Lat *iūbilō* 'shout', ON *ýla* 'yell', ME *yūlen* 'yowl' (> NE *yowl*), MHG *holn* ~ *holen* 'yell', Grk *ἰύζω* 'shout'. Probably onomatopoeic and only possibly of PIE age.

?*sner- '± rattle, growl'. [*IEW* 975 (**s)ner-* ~ **(s)nur-*); Wat 62 (**sner-*)]. ME *snoren* 'snore' (> NE *snore*), NE *snarl*, MHG *snarren* 'rattle, rasp', Lith *niùrniu* 'growl, grumble', Latv *ņurât* 'growl', Grk (Hesychius) *ἔνυρεν* '± cried out'. Probably onomatopoeic and only possibly of late PIE age.

?*meh$_1$(i)- '± mumble, speak indistinctly (?)'. [*IEW* 711 (**mei-*)]. OCS *mŭmati* 'stammer', Grk (Hesychius) *μιμιχμός* 'neigh of horses', Arm *mayem* 'bleat', Hit *memma-* (< **me-mh$_1$i-*) 'speak', OInd *mímāti* 'bellows, roars, bleats'. The differences in meaning invite caution. The apparent possibility of reconstructing a reduplicated present and the fact that this possible verb is also attested in Hittite suggests that this collection may reflect something of PIE age.

?*ger- '± hiss, howl'. [*IEW* 383 (**ger-*); BK 276 (**k'ar-/*k'ər-*)]. ON *kæra* 'complain', OE *ceorran* 'creak', OHG *karrōn* 'hiss, whizz', Lith *gùrti* 'yell', Alb *nguron* 'howls (of the wind)'. Possibly a late PIE word of the west and center.

?*dhren- '± rumble, drone'. [*IEW* 255–256 (**dhrĕn-*); Wat 14 (**dher-*)]. MIr *dresacht* 'creaking noise', Lat *drēnsō* 'cry (of a swan)' (possibly a loanword from Gaulish), NIce *drynjan* 'rumble', OE (with unexplained vowel) *drān* 'a drone' (> NE *drone*), OHG *trēno* 'a drone', Goth *drunjus* 'sound, ring', Lith *trãnas* (with unexplained initial) 'a drone', Slov *drok* 'pestle', Grk *θρῆνος* 'funeral lamentation', *θρηνέω* 'lament', *θρῶναξ* 'a drone', Arm *dṙnčʻim* 'toot, resound', OInd *dhráṇati* 'resounds', and perhaps TochA *träṅk-* 'speak', TochB *treṅk-* 'speak'. If all these words belong together, then we have evidence for something of PIE age.

?*b(o)mb- '± muffled noise'. [*IEW* 93–94 (**ba^{x}mb-*); Wat 4 (**bamb-*)]. ON *bumba* 'drum', Lith *bambė́ti* 'roar', Rus *búben* 'drum', Alb *bumbullit* 'it thunders', Grk *βόμβος* 'muffled noise'. Cf. related terms for insects: Lith *bam̃balas* 'beetle', Grk *βομβύλη* 'type of bee', OInd *bambhara-* 'bee'. Obviously onomatopoeic; probably not of PIE date.

See also Animal Cry; Bird Cry; Sound. [D.Q.A.]

NOSE

***$h_x$náss ~ *h_xnā́s** (gen. ***$h_x$nasos**) 'nose'. [*IEW* 755 (**nas-*); Wat 43 (**nas-*); GI 713–714 (**nas-*); Buck 4.23; BK 165 (**nas^y-/*nəs^y-*)]. Lat *nāris* 'nostril' (pl. 'nose'), *nāsus ~ nāssus* 'nose', ON *nǫs* 'nose', OE *nosu* 'nose' (> NE *nose*), OHG *nasa* 'nose', OPrus *nozy* 'nose', Lith *nósis* 'nose', Latv *nãss* 'nostril', OCS *nosŭ* 'nose', Av *nāh-* 'nose', OPers (acc.) *nāhan* 'nose', OInd *nā́sā* (dual) 'nostrils' (cf. *urūṇasá-* 'wide-nosed' and *ṛjúnas-* 'straight-nosed'). The PIE word for 'nose'. Cf. OPrus *po-nasse* 'upper lip' and possibly Grk *ὑπήνη* 'moustache', Shughni *bůn* 'moustache' (< **$h_4$up-h_xn̥s-neh$_a$-* '[that] below the nose').

See also Anatomy; Face. [D.Q.A.]

NOT

***mē** 'not'. [*IEW* 703 (**mē-*)]. Alb *mos* 'not', Grk *μή* 'not', Arm *mi* 'not', Av *mā* 'not', OInd *mā́* 'not', TochA *mar* 'not', TochB *mā* 'not'. Widespread and old in IE.

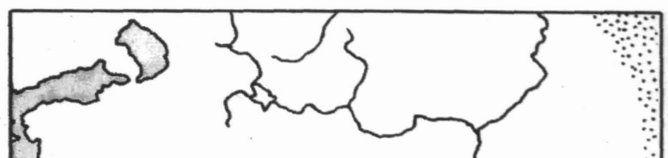
***ne** 'not'. [*IEW* 757–758 (**ne*); Wat 43–44 (**ne*); GI 221–222 (**ne*); BK 562 (**na/*nə, *ni/*ne, *nu/*no*)]. Lat *nōn* (< **n'oin[om]*) 'not', *ne-fās* 'what is contrary to divine command', *ne-sciō* 'not know, am ignorant of', Osc *ne* 'not', ON *nē* 'not', OE *ne* 'not', OHG *ne* 'not' (*nein* 'not' < **n'oinom*), Goth *ni* 'not' (ON *nei* 'no', OE *nā* 'no' [> NE *no*]; OE *nā* + *wiht* 'not at all' [> NE *not*], OHG *nio* 'never', all < Proto-Gmc *ne* + *aiw* 'not + ever'), OPrus *ni* 'not', Lith *nè* 'not', OCS *ne* 'not', Hit *natta* 'not', Av *na* 'not', OInd *ná* 'not'. From **nē*: OIr *nī* 'not'; Goth *nē* 'not'; from **nei*: OLat *nei* '(that) not; if not', Lat *nī* '(that) not; if not', Osc *nī* 'not', ON *nī* 'no', OHG *nī* 'not at all', Goth *nei* 'not'. From **n̥-* 'un-': OIr *in- ~ ē- ~ an-* 'un', Wels *an-* 'un-', Lat *in-* 'un-', Osc *an-* 'un-', ON *ō- ~ ū-* 'un-', OE *un-* 'un' (> NE *un-*), OHG *un-* 'un-', Grk *α(ν)-* 'un-', Hit *a-* 'un-', Av *a(n)-* 'un-', OInd *a(n)-* 'un-', TochA *a(n)-* 'un-', TochB *e(n)-* 'un-'. Widespread and old in IE. Where there is a distinction, this negative is the "ordinary" negative, while **mē* is used with prohibitions and the like.

[D.Q.A.]

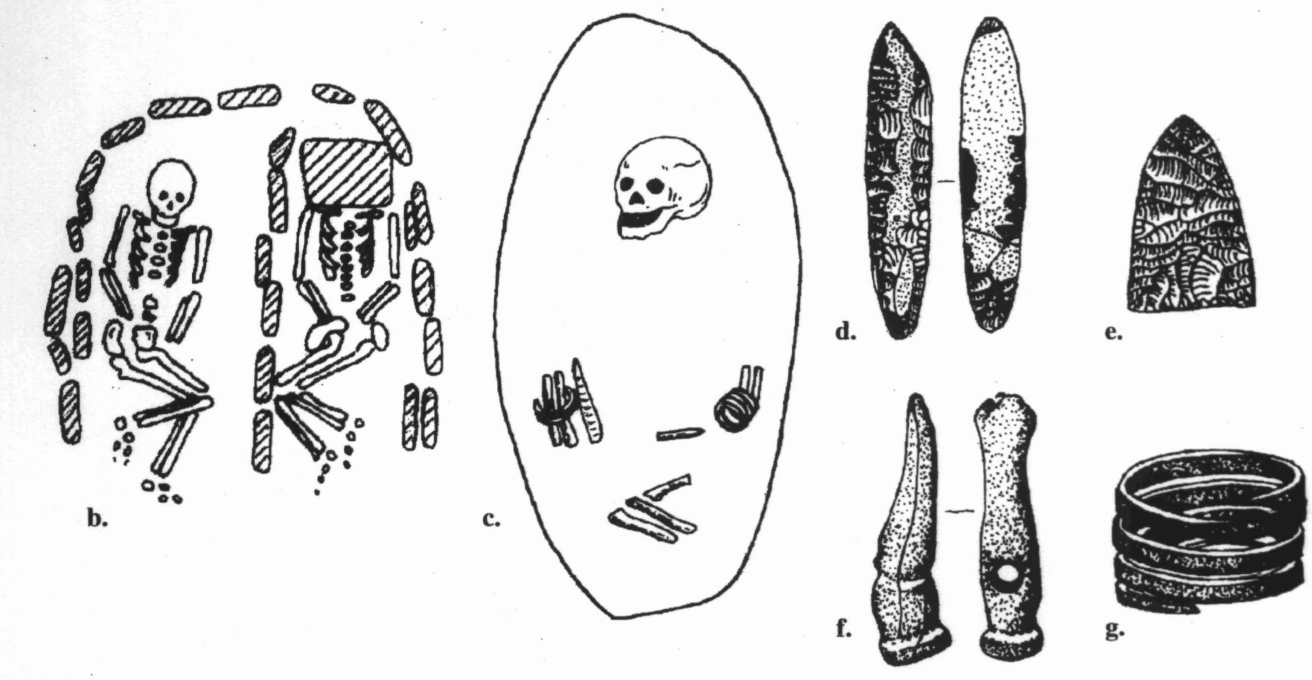
NOVODANILOVKA GROUP

The Novodanilovka group is a Copper Age culture (*c* 4400–3800 BC) of the Ukraine situated along the lower Dnieper and the steppe adjacent to the northeast. It is primarily defined by a series of small cemeteries or individual burials. These parallel the rites of the neighboring Sredny Stog culture, i.e., flexed supine burial, ocher, orientation to east or northeast, but the burials are more elaborate with stone coverings or chambers. Moreover, the burials are distinguished by relatively rich grave goods comprising flint, stone and copper weapons and copper bracelets. Some have argued that these may reflect an aristocratic component of the Sredny Stog culture rather than represent a separate cultural group. In the Kurgan theory, these burials are often presented as evidence of the archetypal patriarchal warlike society of the early Indo-Europeans.

See also Sredny Stog Culture. [J.P.M.]



Novodanilovka a. Distribution of the Novodanilovka group.

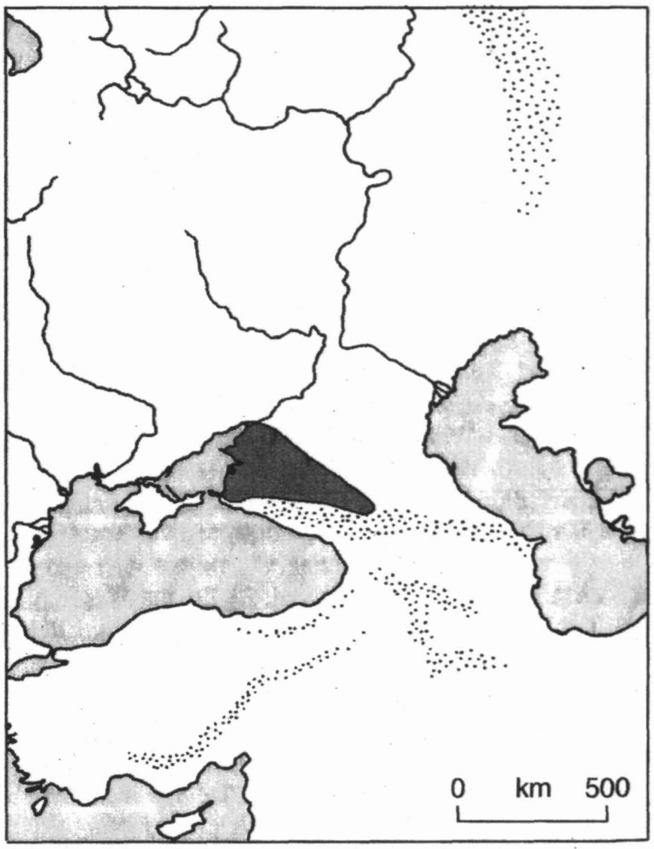


Novodanilovka b. Paired burial from Yama, Ukraine; c. Male burial from Chapli, Ukraine; d. Flint knife; e. Flint point; f. Bone object; g. Copper bracelet.

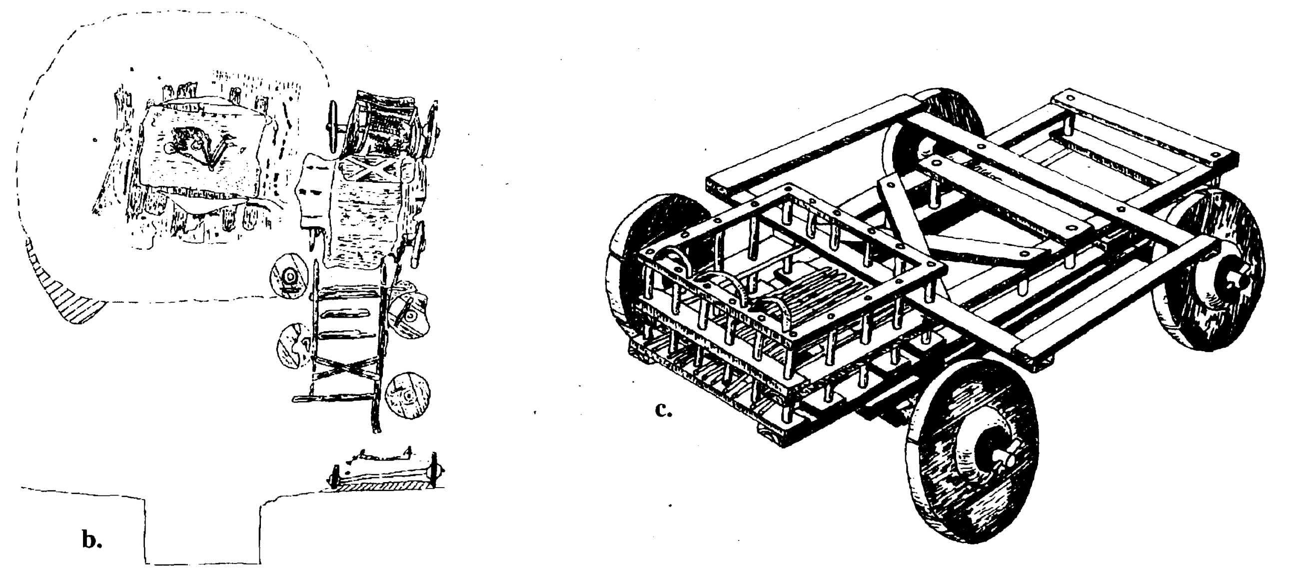
NOVOTITOROVKA CULTURE

Near the Maykop culture of the north Caucasus and the Yamna culture of the steppelands was the newly defined early Bronze Age Novotitorovka culture (*c* 3300–2700 BC). The culture, specifically situated immediately east of the Sea of Azov and north of the Kuban river, is known from over five-hundred burials. These are found flexed on their sides in pits, the floors of which may have been covered with rushes and roofed with timber. Early period grave goods consisted of pottery, bronze knives, awls, axes, the astragali (knucklebones) of sheep, querns, and flint tools; later burials also had rings of bronze and silver. Animal remains are frequently encountered in graves and, in descending frequency, include sheep/goat, cattle, horse, boar, canine (dog or wolf), red deer and birds. Querns may provide evidence for agriculture. What marks the Novotitorovka culture out in particular is the presence of wheeled vehicles which would be placed in the burial pit. Some ninety have been found among the five-hundred graves and they may be presumed to reflect people of high status; they may be found with both adult males and females. The Novotitorovka culture has been included within the Yamna cultural-historical area but distinguishes itself from the Yamna culture by its polished ceramics. It is presumed to be the culture of semi-nomadic pastoralists occupying the transition zone between the agricultural and metallurgically more advanced Maykop and other north Caucasian cultures and the steppe cultures to its north.

See also MAYKOP CULTURE; YAMNA CULTURE. [J.P.M.]



Novotitorovka a. Distribution of the Novotitorovka culture.



Novotitorovka b. Burial with wagon; c. Reconstructed wagon.

Further Reading

Gey, A. N. (1991) Novotitorovskaya kul'tura. *Sovetskaya Arkheologiya* 1991, 1, 54–71

NOW

nu 'now'. [*IEW* 770 (**nū-*); Wat 45 (**nu-*); BK 561 (**naw-/*nəw-*)]. Lat *num* 'now', ON *nū* 'now', OE *nū* 'now' (> NE *now*), OHG *nū* 'now', Goth *nu* 'now', OPrus *-nu* 'now', Lith *nù* 'now', Latv *nu* 'now', OCS *nū* 'now', Grk *νῦ(ν)* 'now', Hit *nu* 'now', Av *nū* 'now', OInd *nū́* 'now', TochA *nu* 'now', TochB *no* 'now'. Pan-IE and clearly of PIE date. It is related to **néu̯os*, **néui̯os* 'new'.

i̯h_am 'now, already'. [*IEW* 285 (**i̯ām*)]. Lat *iam* 'now, already', OE *ju* 'already', OHG *ju* 'already', Goth *ju* 'already', Lith *jaũ* 'already', Latv *jàu* 'already', OCS *ju* 'already'. This word is apparently built on a pronominal stem, of which Latin represents an accusative case (cf. Lat *tam* 'so much' and *quam* 'how much'), and the Baltic, Slavic, and Germanic words are constructed from a locative case (cf. Goth *nu* 'now'). Dialectal IE, confined to the northwest of the IE world.

See also New; Time. [P.B.]

NUMBER

$h_a$rei(h_x)- 'number, count (out)'. [*IEW* 60 (**(a)ri-*); Wat 3 (**ar-*); Buck 13.12; BK 383 (**ħar-/*ħər-*)]. From **$h_a$rei-*: OIr *āram* (*DIL āirem*) (< **ad-ri-mā-*) 'number', Grk *νήριτος* (< **n̥-$h_a$ri-to-*) 'countless, unnumbered', (Arcadian) *ἐπάριτοι* 'the chosen ones', *ἀριθμός* 'number, quantity'; from **$h_a$reih$_x$-*: OIr *rīm* 'number, computation', *rīmid* 'counts', *bōraime* (*bō* + *rīme* 'cattle-count') 'cattle-tribute', Wels *rhif* 'number', *cyf-rif* 'count, recount, narrate', Corn (pl.) *ryvow* 'numbers', ON *rīm* 'reckoning, calculation; calendar', OE *rīm* 'number, calculation' (> NE *rhyme* ~ *rime*), OHG *rīm* 'number, series'. It is possible that the Germanic words are ultimately borrowed from Celtic but, even so, the agreement of Celtic and Greek would appear to assure the PIE age of this word. An enlargement of **$h_a$er-* 'put together, arrange'. From the same **$h_a$rei-dh-* that lies behind Grk *ἀριθμός* 'number' is a Germanic set represented by OE *rǣdan* 'advise', OHG *rēda* 'speech, word, account', Goth *garaidōn* 'arrange'. Other enlargements with similar meanings include Lat *ratiō* 'calculation, reckoning', Goth *raþjō* 'account, explanation', OE *-red* in *hundred* '± hundred-count', or Lith *rinda* 'row, line', Latv *rīdā* ~ *rīdams* 'in rows'.

del- 'aim, compute'. [*IEW* 193 (**del-*); Wat 11 (**del-*); Buck 13.12]. ON *tal* ~ *tala* 'talk, tale', OE *tæl* 'tale, number, series', *talu* 'talk, tale', *tellan* '(re)count, tell' (cf. NE *talk*), MHG *zal* 'number', OHG *zalōn* '(re)count, tell', Goth *talzjands* 'teacher', Grk *δόλος* 'guile, bait', Arm *tol* 'row'. At least a word of the west and center of the IE world.

See also Numerals. [C.F.J., D.Q.A.]

NUMERALS

Similarities in the form of IE number words along with similarities in words for kinship, body parts, and morphological patterning served initially as a major argument for the hypothesis that there was once a people who spoke an IE parent language that no longer exists. Similarities among the number words attested in older and more recent IE languages suggested that the Indo-Europeans of an early period had similar words for the digits 1-10. The internal evidence suggests that this system evolved over time, traces of the

development still evident in the comparison of the cognate terms among the various stocks. There was actually no abstract number 'one' but rather two different roots which were required to indicate "singleness". Proper counting only began later with 'two', and the numerals from 'two' to 'four' are usually inflected for gender and are etymologized as archaic adjectives, i.e., 'two' (< *'further away'), 'three' (< 'still further'). That a later stage of Indo-Europeans counted on their hands is suggested by the deep etymology of 'five' which appears to derive from a word for 'hand'. It is from 'five' to 'ten' that we find possible loanwords from other language families. These larger units also behave like nouns rather than adjectives and their more recent origins are suggested by the possibility that 'eight' is a dual form and that the underlying meaning of 'nine' is 'new', i.e., the new number.

The IE languages also reveal similar words for the tens and decades, and for 'hundred'. Belief that the Proto-Indo-Europeans had the decimal system is based on: (a) linguistic forms for the lower numerals in the daughter languages that show reflexes of inherited forms, (b) the assumption that forms underlying modern 'ten' and 'hundred' were the inherited numeral bases for building the higher numerals, and (c) that both the lower numerals (digits) and the bases 'ten' and 'hundred' are, for the most part, semantically unmotivated, at least as far as we can tell.

Examination of both the number words and the cognitive strategies by which IE numeral systems build their higher numbers, however, shows that the facts are not nearly so straightforward. While Neogrammarian sound correspondences do argue for inherited forms, a form often changes meaning over time. Irregularities in the systems of teen and decade formations also raise doubts about the inheritance of a system based on ten, as such irregularities are likely to preserve relics of earlier systems (cf. 'sing, sang, sung' which preserves the old verbal system that has been regularized in verbs like 'jump, jumped; walk, walked'). But our modern thinking about numeral systems is, with few exceptions, so influenced by the decimal system that it is difficult to imagine a system that has words for 'ten' and 'hundred' in which higher numbers are not formed by successive multiplication by ten. The relative chronology of the IE numerals is now in the process of being reappraised in the context of what we know from early economic documents written on clay tablets in the fourth millennium BC in the valleys of the Tigris-Euphrates and Indus rivers. Before *c* 3400–3100 BC calculation was not yet based on a unified system of 'ten' or any other single base unit. Clay token forms standing for different commodities were initially impressed into clay, once for each unit of commodity suggesting a system based on one-to-one correspondence between the unit of goods and a token. So five undifferentiated impressions of a jug-shaped token would represent five jugs of wine, a fusion between concepts for quantity and commodity. By the late fourth millennium BC substitution of five neutrally-shaped marks plus one jug-shaped token impression came to differentiate the quantity from the commodity, thus separating number as an abstract concept from the commodity quantified. This break in notation strategy represents a cognitive shift in thinking about the quantification of goods.

Early Near Eastern base units included '2', '6', and '10', among others, depending on the commodity counted. (As late as the twentieth century we still have not regularized factors 12 and 60 for measuring time and 12 and 30 that, irregularly, divide the year.) Sumerian and Elamite systems that evolved along with early agriculture were based on factors 6 and 10 but did not exponentiate on either, as the decimal system does with ten. If our best records for the rise of numeracy show abstract counting only in the third millennium BC, it would be surprising to find Proto-Indo-Europeans before the late fourth millennium using a decimal system based on exponentiation by ten.

Among number forms, base units or multiples have elsewhere been reinterpreted when a system changed the value of its base. The most pervasive IE base unit form, **k̥m̥tóm*, is widely attested in the meaning '100', yet disturbing uses of it occur where one would expect a form of 'ten', perhaps even 'five', instead. Did it once mean 'base unit' with a different numerical value in a pre-decimal system? Despite clear evidence for IE numeral forms, there remain tantalizing mysteries about their interpretation.

In the following data the units are given first with cardinal, ordinal, and (in the case of the 'two' and 'three') the multiplicative. Oldest deictic forms underlying the digits 'one' to 'three' may reflect concrete counting, while 'four' and 'five', to the extent that they reflect a system based on hand counting, may show an early stage of abstract counting. If 'eight' is derived from 'four', it reflects a stage when 'four' was a base number. 'Six' and 'seven' may be borrowed, while 'nine' and 'ten', with the borrowing of 'seven', take on roles in the new decimal series based on atoms 'one' to 'ten'.

Units

One

The number 'one' was represented in the proto-language by two roots. The current hypothesis is that **oi-no-* referred to an individual object alone while **sem-* referred to the group as a whole: a 'unity' formed from a 'joined together' multiplicity. The fact that no one form stood for the cardinal number 'one' suggests that at the earliest stage of PIE the concept of 'one' as an abstraction of unitness or cardinality had not yet evolved, but that it arose independently by two separate, semantically motivated paths of development. The absence of a single word for 'one' has also been recorded for other language families, e.g., Semitic, Kartvelian, Sumerian, and is explained by the observation that single objects do not require a numeral and that actual counting begins with the number 'two'.

****oi-no-s* ~ **oi-u̯o-s* ~ **oi-ko-s*** (or ****h₁oi-no-s* ~ **h₁oi-u̯o-s* ~ **h₁oi-ko-s*?**) 'one'. [*IEW* 281–286 (**oi-nos*); GI 741 (**oi-no-/*oi-wo-/*oi-k^h-*); Wat 45 (**oi-no-*); Buck 13.32]

< **e-/*o-* deictic pronoun [*IEW* 281–286 (**e-*, **ei-*, **i-*)]; **o-*, locative **oi-* 'with the one, in the one, on its own' (1) **oi-* + particle *-no-*: OIr *oīn* 'only one, single', *oena* 'units' (not adj. nor numeral in early Irish), Wels *un* 'one; a, an (indef. art.)', Lat *ūnus* 'one, alone', ON *einn* 'one', OE *ān* 'one' (> NE *one*, *a*, *an*), OHG *ein* 'one, an, a', Goth *ains* 'one', OPrus *ains* 'one', Lith *víenas* 'one', Latv *viêns* 'one', OCS *ino-* 'one' in *ino-rogŭ* 'unicorn', *(j)ed-in-* 'one', Rus *odín-* 'one' (< **(j)ed-inŭ*), perhaps Alb (Gheg) *nji*, (Tosk) *një* 'one' (< stressed **n̥ia-* < **eni-oino-* 'deictic + numeral' or < **sm̥ieh$_a$-*); (2) **oi-* + particle **-u̯o-*: Av *aēva-* 'one', OPers *aiva-* 'one, alone'; (3) **oi-* + particle **-ko-*: Mitanni *aika-wartanna* 'one turning, one lap (in horse race)', OInd *éka-* 'one' (with pronominal inflection)(< Indo-Iran **aika-* < **oi-kó-*); (4) **e-/*o-*: perhaps Alb (Gheg) *nji*, (Tosk) *një* 'one' (< **eni-oino-* 'deictic **e-* + numeral **oi-no-*), Hit **a-* pronoun: Hit stem **ā-* 'one'. The roots also have the meaning 'one alone, one single one'; it is deictic in origin, i.e., **oi-*, **ei-*, **i-* < **e-/o-* 'that one': OIr *ē*, *hē* 'that one', Lat *is* 'that one', ON *es* 'which, that one', OHG *er*, *ir* 'he', Goth *is* 'he', CrimGoth *ita* 'one', Lith *jìs* 'he', Grk (Homeric)(fem.) *ἴα* 'she, the one, the same', *ἰός* 'that one', OInd *ayám*, *iyám*, *idám* 'he, she, it'. The deictic form **o-* and its derivatives **oi-*, **oi-no-* referring to singularity are old PIE forms. Use of this root with variant suffixes in **oi-u̯o-*, **oi-ko-* for the cardinal numbers 'one' represents independent dialectal innovations.

****sem-s*** ~ ****sem*** ~ ****sm-ih$_a$-*** 'united as one, one together'. [*IEW* 902 (**sem-*); Wat 57 (**sem-*); Buck 13.32; BK 184 (**sam-/*səm-*)]. Perhaps Alb (Gheg) *nji*, (Tosk) *një* (< **sm̥ieh$_a$-* or stressed **n̥i-* < PIE **eni-oino-* 'deictic + numeral') 'one', Grk *εἷς*, *μία*, *ἕν* (masc., fem., neut.) 'one', Myc *e-me* 'one', Arm *mi* (< **sm-ih$_a$*) 'one', TochA *sas* (masc.), *sam* (fem.) 'one', TochB *ṣe* (< Proto-Toch **sems*) 'one'. Clearly widespread and old in IE.

****per-*** ~ ****pro-*** (in derivatives) 'first'. [*IEW* 811–815 (**per-*); GI 741 (**ph(e)r̥-H-*); Wat 49 (**per-*); Buck 13.34; BK 41 (**p[h]ar-/*p[h]ər-*)]. From **pr̥h$_x$u̯os*: OE *forwost* 'captain, chief', OCS *prĭvŭ* 'first', Alb *parë* (< **pr̥h$_x$-u̯o-* or **pr̥h$_x$o-u̯o-?*) 'first', Av *paurva-* 'prior', *paourvya-* 'prior, first', OPers *paruviya-* 'prior, first', OInd *pū́rva-* 'first; to the fore, eastern', *pūrvyá-* 'prior, first', TochA *pärwat* 'first', TochB *parwe* 'earlier', *pärweṣṣe* 'first' (cf. ON *Freyr* [name of god]), Goth *frauja* 'lord' as if < PIE **prou̯io-*; OE *frēa* 'lord', OHG *frō* 'lord' (as if < PIE **prou̯on-*); formations with the suffix **-mo-*: Lat *prīmus* 'first' (< superlative **pri-is-* + *-mo-*), Umb *promom* ~ *prumum* 'at first', ON *frum-burðr* 'first-born', OE *frum* 'primal, original, first', *fruma* 'origin', Goth *fruma* ~ *frumists* 'first', OPrus *pirmas* 'first', Lith *pìrmas* 'first', Latv *pirmais* 'first' (Baltic, and perhaps Gmc, < **pr̥h$_x$-mo-*); formations with a **-t-* suffix: Grk *πρῶτος* 'first, foremost' (< old instrumental **proh$_1$-* 'by the front side'), *πρότερος* 'in front; earlier; superior', Av *fratara-* 'prior', *fratəma-* 'first', OPers *fratama-* 'first', OInd (adv.) *pratarám* 'further, future', *prathamá-* 'first' (the Indo-Iranian forms with **-ta-ma-* show the influence of the general Indo-Iranian superlative suffix **-tama-*); other formations: ON *fyrstr* 'first', OE *fyrest* ~ *fyrst* 'first' (> NE *first*) (< PIE **pr̥h$_x$-isto-*), Arm *arajčin* (with difficult *-jč-*) 'first'. Other roots used for 'first' in IE languages include **ken-* 'young' as in OIr *cētnae* (< **ken-t-on-i̯o-*) 'first', Gaul *cintu-gnatos* 'first-born' (cf. Lat *re-cēns* 'young, fresh, new') and **h$_2$ent-* 'front' in Luv *hantel(i)-* 'first', Hit *hantezzi-* 'first, anterior', Lycian *xñtawa-* 'rule, kingship; ruler', and again in Rom *întîi* 'first' (< **antaneus*, derived from Lat *ante* 'before').

By far the majority of IE words for 'first' come from variants of an old IE spatial root (**per-/*pro-*) in its meaning of anteriority. Nevertheless, other roots are responsible for Celtic and Anatolian forms. The fact that there is so much hesitation in the exact derivations from **per-/*pro-* that give the majority of IE words for 'first' suggests that PIE had not yet developed an abstract ordinal of 'firstness' nor the related cardinality for which **oi-no-* 'one alone' and **sem-* 'united as one, one together' compete.

See also **Alone**; **Once**; **Same**; **Some**.

Two

Forms relating to 'two' and 'twoness' are of old IE origin, possibly from an older demonstrative meaning 'that one farther away', with the abstract cardinality of "twoness" developing later. Cardinal 'two' from dual forms **du̯eh$_3$(u)-* ~ **duu̯eh$_3$(u)* is inflected as a pronoun or adjective in languages with case, number and gender inflection. Singular **d(u)u̯oi-* 'two', with collective meaning, suggests that IE 'twoness' was first collective then cardinal.

****du̯éh$_3$(u)*** ~ ****duu̯éh$_3$(u)*** 'two' (dual). [*IEW* 228–229 (**du̯ō(u)*); GI 742–743 (**t'wo-*); Wat 15–16 (**dwo-*)]. **du̯eh$_3$(u)*: OIr *dāu* ~ *dōu* 'two', OWels *dou* 'two', Lat *duo* 'two', ON (masc.) *tveir*, (neut.) *tvā* 'two', OE (masc.) *tū* 'two', (fem.) *twā* 'two' (> NE *two*), OHG (fem.) *zwā*, *zwō*, (neut.) *zwē* 'two', Goth (pl.) *twai* 'two', CrimGoth *tua* 'two', OPrus (pl.) *dwai* 'two', Lith (masc.) *dù*, (dual) *dvì* 'two', Latv (pl.) *divi* 'two', OCS (masc.) *dŭva* 'two', Rus *dva*, (fem.) *dve* 'two', Alb *dy* 'two', Myc *dwo* 'two', Grk *δύω* 'two', Arm *erku* 'two', Av *dva* 'two', OInd (masc.) *dvā́* (fem./neut.) *dvé* 'two', TochA (masc.) *wu*, (fem.) *we* 'two', TochB *wi* 'two'; **duu̯eh$_3$(u)*: ?Hit *tūwa* 'distant'.

****du̯i-i̯os*** ~ ****du̯i-tos*** 'belonging to two, second'. [*IEW* 230 (**du̯i-*)]. From **du̯i-i̯o-* 'that one farther away': Hit [LÚ]*duyanalli-* 'officer of the second rank', Lycian *kbijehi* 'foreign, other'; also with **-i̯o-*: NPers *dovvom*, *doyyom* 'second', Pashto *dwayam* 'second'; **doi̯os*, variant of **du̯oi̯-i̯o-* 'two, twofold': Hit (loc.) *t/dān* 'for the second time, again, secondly'; from **du̯i-to-*: Alb *dytë* 'second', Khot *śāta-* 'second', OInd *dvitā́* 'doubly so', TochA *wät* 'second', TochB *wate* 'second'; on analogy with **-ti̯o* in 'third': Umb **du-tio-* as *duti* 'a second time', Av *daibitya* ~ *bitya* 'second', Parth *byd* (< OIran **du̯itii̯a-* 'second' on the model of **tr̥tíya-* 'third'), OInd *dvitī́ya-* 'second'. Cf. also **u̯i-teros*: OCS *vŭtorŭ* 'second', OInd *vītava-* 'the next, later'. Clearly separate semantic innovations include: OIr *tānaise* (< **do-ānat* 'expects') 'second', Lat *secundus* 'second' (< **sek[w]-* 'follow'), Grk *δεύτερος* (< **δεῦ* 'here' +

*-τερο-) 'second, on this side'. Variation in source and original senses of 'second' suggests that PIE had no single form.

***du̯oi-** ~ ***d(u)u̯oii̯os** 'two, group of two' (cardinal collective). [*IEW* 229 (**du̯oi-*), 231]. OIr *dīas* 'unity of two peoples, couple', Khot *dvi-* 'two'. Phonological variant **doi̯ós*: Hit **t/dā-* 'two' (cf. *dā-iuga* 'two years old, two-fold, double year') usually written 2 + phonetic complements; **t/dān* (adv.) 'second time, secondly', Luv *tuwanza, tuwinza* (formerly read *tu-wa-i*) 'two'.

***du̯i-** 'bi-' (prefix). [*IEW* 229 (**du̯i-*)]. Lat *bi-* 'two-' as in *bi-pēs* 'two-footed', OE *twi-* as in *twi-fēte* 'two-footed', Grk *δ(ϝ)ι-* 'two-' as in *δί-πους* 'two-footed', Av *bi-* 'two-' as in *bi-zangra* 'two-footed', OInd *dvi-* 'two-' as in *dvi-pad-* 'two-footed'.

***du̯is** 'twice' (multiplicative). [*IEW* 230 (**du̯is*); GI 743 (**t'wis*)]. OIr *fo di* 'twice', OLat *duis* 'twice', Lat *bis* 'twice', MHG *zwir* 'twice', Grk *δ(ϝ)ίς* 'twice', Arm *erkir* 'twice, second', Av *biš* 'twice', OInd *dví-* 'twice'. Also **du̯i-t-* 'twice, double': OInd *dvitá-* 'twice, double', *dvitī́ya-* 'secondly'. Cf. **du̯is-u̯o-* 'other, twice' in Milyan *tbisu*, Lycian *kbihu* 'other, twice'. The widespread coincidence of form and meaning among reflexes of this old multiplicative form for 'two', beside the fact that other words such as 'apart, twin, between, doubt' are derived from it, suggests that it is inherited.

***du̯oi̯os** 'double(d), twofold'. [*IEW* 231]. OCS *dŭvoji* 'twofold, two', *dŭvoje* 'a set of two things', Grk *δοιός* 'doubled', Hit *dān-ki* (< **du̯oi̯om + ki*) 'twice, to a double level' (written *2-an-ki*), OInd *dvayá-* 'duplicity'. Widespread and probably old in IE. The Germanic genitives of 'two' are sometimes put here, e.g., ON *tveggja* 'of two', OE *twēgen* 'of two' (> NE *twain*), OHG *zwei(i)o* 'of two', Goth *twaddje* 'of two', but they mean something different and are better taken as remains of a morphological dual in Germanic than as a derivative formation.

***du̯(e)i-plos** 'double, twofold'. [*IEW* 802 (**du̯ei-plo-*); GI 682 (**t'wei-p^{h}lo-*)]. OIr *dīabul* 'double', Lat *duplus* 'double', *duplex* 'two-fold', Grk *διπλός* ~ *διπλάς* 'twice', Milyan *tbiple* 'two-fold, double', possibly also Av *bifra-* 'comparison, similarity'. This multiplicative of 'two', formed with the verb **pel-* 'fold', undoubtedly belongs to late IE conceptual structures as multiplicatives; the more pervasive suffixes, *-ko-*, *-no-* are older, and **du̯is* 'twice' is older still.

***bhōu** 'both'. [*IEW* 34–35 (**ambhō(u)*); GI 59; Wat 2 (**ambhō*)]. Av *uba-* 'both', OPers *uba-* 'both', OInd *u-bhaú* 'both'; Gmc **bai*: Goth (pl.) *bai* 'both', cf. Lith *abíem* 'both', Latv *abiem* 'both', OCS *abema* 'both'; with pronominal suffixes: ON *bāðir* 'both', OE *bēgen* 'both', NHG *beide* 'both', Goth *bajōþs*; with emphatic prefix **am-*: Lat *ambō* 'both', Lith *abù* 'both', OCS *oba* 'both', Rus *óba* 'both', Grk *ἄμφω* 'both'; and **am-bhi*, **m̥-bhi* 'on both sides, around' [*IEW* 34 (**ambhi*)]. OIr *imb* ~ *imm* 'about', Gaul *amb-* 'about', Lat *ambi-* 'about', OHG *umbi* 'about', Grk *ἀμφί* 'around', OInd *a-bhí* 'about', TochA *āmpi* 'both', TochB *ant-api* 'both'. The form for the collective numeral root is clearly old as seen from its widespread presence from one end of the IE dialect expanse to the other, and the semantic development of a concept 'both' is probably a shared phenomenon, albeit one that proceeded independently by more than one path in the individual dialects with the addition of a suffix in Germanic, the prefix **am-* elsewhere.

See also Divide; Follow; Other.

Three

***tréi̯es** (pl.) 'three'; perhaps older ***ter-** ~ ***tr-** 'even further'; cf. ***tr-i-** 'upper, above (two); last number of a pre-manual count system'. [*IEW* 1090–1091 (**trei-*); GI 743 (**t^{h}rei-*); Wat 71–72 (**trei-*); Buck 13.41–52]. OIr (masc.) *tri* ~ *trī* 'three', Wels *tri* 'three', Lat *trēs* 'three', ON *þrīr* 'three', OE (masc.) *þrīe* 'three' (> NE *three*), OHG *drī* 'three', Goth (masc.) *þreis* 'three', (neut.) *þrija* 'three', OPrus *tris* 'three', Lith *trỹs* 'three', Latv *trīs* 'three', OCS (masc.) *trije*, (fem.) *tri* 'three', Alb (masc.) *tre* 'three', Myc **tri-* in *ti-ri-po* 'tripod', Grk *τρεῖς* three', Arm *erek'* 'three', Hit *tēri-* 'three', Lycian *tri-* 'three', Av (masc.) *θrayō* 'three', OInd (masc.) *tráyas*, (neut.) *trī́* 'three', TochA (masc.) *tre* 'three', TochB (masc.) *trai*, (fem.) *tarya* 'three'. In languages with inflected lower numerals, the cardinal numeral 'three' is inflected for gender. Widespread agreement in form and meaning suggests that this is an old IE root, probably originally 'upper, above' with derivatives meaning 'group of three, three'. Tocharian forms reflect a blend of **trei̯es* and **troi̯os* 'trio, triad', clear recent innovations on the older root. An old late PIE dialectal feminine **tisrés* (< **tri-sr-/*tri-sor-* or **tris-r-/*tris-or-* [*IEW* 1091]) is preserved, with *r...r* dissimilation, in OIr *teōir*, MWels *teir*, Av *tišrō*, OInd *tisrás* (< Indo-Iran **tisr-*), competing with feminine-neuter (collectives) **tri-i(i̯)h$_a$*: Lat *tria*, Goth *þrija*, Grk *τρία*, OCS (masc.-fem.) *trije*.

***ter-i̯os** ~ ***trii̯-os** > ***tri-i̯os** 'third', (late PIE) ***tri-tos**, with remodeled ***tri-t-ii̯os** (cf. Lat *it-in-er-is* 'journey' (gen.) for **itinis* of older heteroclitic **iter, *itinis*). [*IEW* 1091 (**trei-*); Wat 71–72 (**trei-*)]. OIr *triū* 'three', Arm *eri-r, eri-rord* 'thrice, third', Hit *teriyan* 'third', *teriyanna* (+ **-ono-*) 'for the third time', *teriyalla-* 'third ranked', Luv *tarriyanalli-* 'third rank'; with **-to-*: Alb *tretë* third', Grk *τρίτος* 'third', (Homeric) *τρίτατος* 'third', OInd *tritá-* 'third', TochA *trit* 'third', TochB *trite* 'third'. From **tritii̯os, *tr̥tii̯os*: Wels *trydydd* 'third', Lat *tertius* 'third', Umb *tertiu*, *terti* (< **tr̥-*), ON *þriði* 'third', OE *þridda* 'third' (> NE *third*), OHG *dritt(i)o* 'third', Goth *þridja* 'third' (< Proto-Gmc **þridjan*), OPrus *tīrts, tirts* 'third', Lith *trēčias* 'third', Latv *trešais* 'third', OCS *tretijĭ, treti* 'third', Rus *trétij* 'third', Av *θritya-* 'third', OInd *tr̥tī́ya-* 'third'. **-tii̯o-* quite likely reflects a later development in which abstract ordinal **i̯o-* renews an older ordinal in **-t-*. It would not be surprising to find shared words for the abstract ordinal 'third' of late PIE date if abstract counting was also late and cardinal 'three' itself was from an original root meaning **tr-i-* 'above, upper' that was adapted for use as an abstract numeral when the numeral system developed. Clearly outside the numeral system proper and perhaps of PIE date are forms reflecting **tristis, *tr̥stos* with meanings relating to 'third' and the role of a third person

in a transaction: OIr *tress*, *triss* 'third', Lat *testis* 'witness', Osc *trstus* 'third standing by', or **terio-*: Hit *teriyalla-* 'mediator'.

tris 'thrice'. [*IEW* 1091 (**tris*); GI 743 (**t^{h}ris*)]. OLat *terr* 'three', Lat *ter* (< **tr̥s* < **tris*) 'thrice', *trīni* (< **tris-no-*) 'three each', Grk *τρίς* 'thrice', Av *θriš* 'thrice', OInd *triṣ* ~ *triḥ* 'thrice'. Despite the similarity of appearance, NE *thrice* is an innovation of ME *thrīes* and similarly MHG *drīes* 'thrice'. Though typically replaced by newer formations in the various IE groups, the remaining attestations of **tris* would seem to guarantee it PIE status.

See also THREE-HEADED MONSTER.

Four

***k^{w}etu̯or-** ~ ***k^{w}etur-** ~ ***$k^{w}{}_{e}$tu̯or-** ~ ***$k^{w}{}_{e}$tur-** 'four'. [*IEW* 642–643 (**k^{u}etu̯er-*); GI 743 (**k^{ho}et^{h}we/or-*); Wat 34 (**k^{w}etwer-*)]. OIr *cethair* ~ *cithir* ~ *cethri* 'four', Lat *quattuor* 'four', Lith *keturì* 'four', Latv *četri* 'four', OCS *četyre* 'four', Alb *katër* 'four', Myc (inst.) *qe-to-ro-pi* 'with four feet', Grk (Homeric) *τέσσαρες* 'four', (Attic) *τέτταρες* 'four', (Doric) *τέτορες* 'four', Arm *č'ork'* 'four', Av *čaθwārō* 'four', OInd *catvā́ra-* ~ *catúra-* 'four', TochA *śtwar* 'four', TochB *śtwer* 'four'. From **petu̯or-* (< **k^{w}etu̯or-* under the influence of **penk^{w}e* 'five'): OWels *petguar* 'four', Wels *pedwar* 'four', Osc *petora* 'four', ON *fjōrir* 'four', OE *fēower* 'four' (> NE *four*), OHG *fior* 'four', Goth *fidwōr* 'four', CrimGoth *fyder* 'four', Grk (Lesbian) *πέσυρες* 'four', (Boeotian) *πέτταρες* 'four'. From this root are various derivatives, e.g., **k^{w}etu̯er-*: Lith *ketverì* 'quartet', OCS *četverĭ* 'quartet', OInd *catvará-* 'four-cornered (place)'. In compounds we have **k^{w}etur-*: OInd *cátuṣ-pad-* 'four-footed' and various derivatives: Lat *quadru-ped-* 'four footed', Myc *qe-to-ro-po-pi* 'four-footed (animals)'. Dialectal innovations on the form and irregularities in correspondences, e.g., the oddity of Lat *quattuor* and Germanic and Celtic innovations, leave open the possibility of borrowing. Proposals for analysis range from Finno-Ugric **kwet-* 'pair' (variants **k^{w}etu̯er-*, **k^{w}etesor-* plus suffixes **u̯er-* 'man', **sor-* 'woman') to **k^{w}e-tur*, formally 'indefinite particle' + 'grasp (with the hand), whatever grasped, four' with false sandhi split in a counting series **tri-*, **kwe tur* 'three-indefinite, four'; cf. ordinal forms without **kwe-*: Grk (personal name) *Τυρταῖος* similar to Lat *Quīntus* 'Fifth', Av *tūirya*, OInd *turī́ya-* 'fourth'.

As with the feminine of 'three', by late PIE, dialectal feminine ablaut variants in **-s(o)r-* compete with feminine (abstract collective) forms in **-i(i̯)h$_{a}$* (Lat *tria*, OCS [fem.-neut.] *četyri*, Grk *τέτταρα*). These competitors, **k^{w}eto-sr-*, **k^{w}ete-sor-*, are preserved as **k^{w}etesore-* in OIr *cethoir*, *cethēoir*, Wels *pedair*, and **k^{w}etosr-* in Av *čataŋrō*, OInd *cátasras*, with dissimilations of *-w-* and *r...r* before the much discussed ablauting suffix, **-s(o)r-*. The concrete meaning of **-s(o)r-* of Hit *hassussara-* 'queen' (*hassu-* 'king'), *isha-ssara-* 'lady' (*ishā-* 'lord', perhaps also PIE **su̯é-sōr* 'sister' (< ?'own woman') argues that **-s(o)r-* was established as a separate feminine marker before the separation of Anatolian from the rest of Indo-European. Only later, after that separation, did **s(o)r-* become an agreement marker for these numerical adjectives.

?*mei-u̯os (adj.) 'belonging to the little hand?' or 'increased above "3"?'. [*IEW* 711 (**mei-*); cf. GI 743; Wat 40 (**mei-*)]. Myc *me-wi-jo* 'smaller, younger' (if not also 'four'), Luv *māwa* 'four', *māwati* 'with four sides', *māwaninta* 'harnessed in fours (?)', Hit *meyu-*, *miyu-*, *miu-* (*u*-stem noun) 'member of a group of four; four', *miuwaniyant-* 'harnessed in fours'. Comparison of the Mycenaean form with Lat *minor* 'less', Goth *mins* 'less', Greek *με(ϝ)ίων* 'smaller' has suggested relations with PIE **mei-* 'be little, small', i.e., the 'smaller (hand)' in a system based on hand counting, as a semantic proto-type of 'four'. Forms for the number 'four' pose problems that point to IE innovation and borrowing. Reflexes of a **mei-u̯os* in Luvian and Hittite argue for an old IE alternative to the usually accepted **k^{w}etu̯or-* and related forms.

***k^{w}etu̯or-tos** ~ ***k^{w}etur-tos** ~ ***petúr-tos** 'fourth' (ordinal). [*IEW* 643 (**k^{u}etur-*); GI 743 (**(k^{ho})t^{h}ur-yo-*)]. Lat *quārtus* 'fourth', ON *fjōrði* 'fourth', OE *fēorþa* 'fourth' (> NE *fourth*), OHG *fiordo* 'fourth' (< Proto-Gmc **fiðurþa-*), OPrus *kettwirts* 'fourth', Lith *ketviȓtas* 'fourth', Latv *ceturtais* 'fourth', OCS *četvrŭtŭ* 'fourth', Rus *četvërtyj* 'fourth', Alb *katërt* 'fourth', Grk *τέτρατος* 'fourth', (Attic-Ionic) *τέταρτος* 'fourth', OInd *caturthá-* 'fourth', TochA *śtärt* 'fourth', TochB *śtarte* 'fourth'; with **-i̯o-*: Av *tūirya-* 'fourth', OInd *turī́ya-* 'fourth'. Arm *c'or-ir* 'fourth' is an innovation on the analogy of *erk-ir* 'second', *er-ir* 'third'. Other derivatives include Lat *quadru-* 'fourth', Av *čaθru-* 'fourth', and possibly non-numeral Hit *kutruwan* (< **$k^{w}{}_{e}$tur-ió-m*) 'witness (< *'the fourth party to a transaction'). Cf. OIr *tress* 'third' but Lat *testis* 'witness', the third party. Ordinal forms for 'fourth' derived from **k^{w}etu̯or-* and its variants are of late PIE or post-PIE origin.

See also GROW; LESS; NUMERALS (EIGHT).

Five

***pénk^{w}e** 'five'. [*IEW* 808 (**penk^{u}e*); GI 743, 746–747 (**p^{h}enk^{ho}e*); Wat 49 (**penk^{w}e*)]. Grk *πέντε* 'five', Arm *hing* 'five', probably Luv *5-w(a)* (< **pa^{n}ku*) 'five', Av *panča* 'five', OInd *páñca* 'five', TochA *päñ* 'five', TochB *piś* 'five'. Suffixed forms are also found: Lith *penkì* 'five', OCS *pętĭ* 'five', Rus *pjatĭ* 'five', Alb *pesë* (Gheg *pêsë*) 'five', Mitanni *panza-wartanna* 'five-laps (of a horse around a track)', OInd *paṅkti-* 'group of five' (cf. also *pra-pañca-* 'diversity', *prapañca-na-* 'detailed exposition'; **k^{w}enk^{w}e* with assimilation of **p-* to **k^{w}-*: OIr *cōic* 'five', Lat *quīnque* 'five', **pempe* with assimilation of **-k^{w}-* to *-p-*: OWels *pimp* 'five', ON *fimm* 'five', OE *fīf* 'five' (> NE *five*), OHG *fimf* 'five', Goth *fimf* 'five', CrimGoth *fyuf* ~ **fynf* ~ **fiff* 'five' (< Proto-Gmc **fimf*), Grk (Aeolic) *πέμπε* 'five' (cf. also Grk *πεμπάζω* 'count'). The form for 'five' is clearly PIE in origin although comparisons with **penk^{w}-*, an IE word for 'hand', and Grk *πέμπω* 'send' < *'escort, lead by hand', for example, may suggest that 'five' is secondary, derived from the original meaning 'hand'.

***pn̥k^{w}-tós** ~ ***pénk^{w}-tos** ~ ***pénk^{w}-e-tos** 'fifth'. [*IEW* 808 (**penk^{u}tos*); GI 743 (**p^{h}enk^{ho}-t^{h}o-*)]. **pn̥k^{w}tós*: Av *puxδa-*

'fifth', OInd _pakthá-_ 'fifth'; _*pénk^w-tos_: OPrus _piēncts_ 'fifth', Lith _peñktas_ 'fifth', Latv _pìektais_ 'fifth', OCS _pętŭ_ 'fifth', Rus _pjátyj_ 'fifth', Alb _pestë_ 'fifth', TochA _pänt_ 'fifth', TochB _piṅkte_ 'fifth' (cf. also perhaps _epiṅkte ~ epiṅte_ 'between' if < *'in the fifth place' [i.e., after the four cardinal directions]). With assimilation of _*-k^w-_ to _*-p-_ (_*pemp-tos_): ON _fimti_ 'fifth', OE _fīfta_ 'fifth' (> NE _fifth_), OHG _fifto ~ fimto_ 'fifth', Goth _fimfta-_'fifth' (< Proto-Gmc _*fimfta-_), Grk _πέμπτος_ 'fifth'; with assimilation of _*p-_ to _*k^w-_ (_*k^{w}énk^w-tos_): Lat _quīntus_ 'fifth'; _*pénk^w-e-tos_ with assimilation of _*p_ to _*k^w-_ (_*k^{w}énk^w-e-tos_): OIr _cōiced_ 'fifth', and assimilation of _*k^w-_ to _-p-_ (_*pemp-e-tos_): OWels _pimphet_ 'fifth'. Arm _hing-er-ord_ 'fifth' is an innovation of a different sort.

See also **Abundance**; **Hand**.

Six

*(s)u̯eḱs ~ *(k)seḱs ~ *ksu̯eḱs 'six'. [_IEW_ 1044 (_*su̯eḱs_); GI 743 (_*s^{o}eḱ^h-s_); Wat 68 (_*s(w)eks_); BK 193 (_*s^{w}ak[^{h}]s^w-/*s^{w}ək[^{h}]s^w-_)]. From _*su̯eḱs ~ *u̯eḱs_: OIr _sē_ 'six', _seisser_ 'six men', Wels _chwech_ 'six', Myc _we-pe-za_ '(table with) six feet', Grk _(ϝ)ἕξ ~ ἕξ_ 'six', Arm _vecʻ_ 'six'; from _*seḱs_: Lat _sex_ 'six', ON _sex_ 'six', OE _siex_ 'six' (> NE _six_), OHG _sëhs_ 'six', Goth _saíhs_ 'six', TochA _ṣäk_ 'six', TochB _ṣkas_ 'six'; from _*(k)seḱs_: Lith _šešì_ 'six', Latv _seši_ 'six', OCS _šestĭ_ 'six', Alb _gjashtë_ 'six'; from _*ksu̯eḱs_: Av _xšvaš_ 'six', OInd _ṣáṣ_ 'six'. The range of the IE forms may suggest independent borrowings rather than an inherited numeral. One might recall here words for 'six' in East Semitic Akkadian (_šeššum, šeššet_), if not Egyptian _s'rs'w_ beside _s'i's'w_.

*su̯eḱs-os ~ *su̯eḱ(s)-tos ~ *seḱ(s)-tos ~ *u̯eḱs-tos ~ *ksuḱs-tos 'sixth'. [_IEW_ 1044 (_*su̯eḱs_); GI 743 (_*s^{o}eḱ^h-t^{h}o-_); BK 193 (_*s^{w}ak[^{h}]s^w-/*s^{w}ək[^{h}]s^w-_)]. From _*(k)s(u̯)eḱs-os_: Gaul _suexos_ 'sixth', Av _xštva-_ 'sixth'; from _*(s)(u̯)eḱ(s)-tos_: Lat _sextus_ 'sixth', Umb _sest-_ 'sixth' (in compounds), ON _sētti_ 'sixth', OE _siexta_ 'sixth' (> NE _sixth_), OHG _seh(s)to_ 'sixth', Goth _saíhsta_ 'sixth', OPrus _usts ~ uschts_ (< _*uḱtos_) 'sixth', Lith _šẽštas_ 'sixth', Latv _sẹstais_ 'sixth', Bulg _šéstĭ_ 'sixth', Alb _gjashtë_ (dialectally _gjashtët_) 'sixth', Grk _(ϝ)έκτος ~ ἕκτος_ 'sixth', Arm _vecʻerord_ 'sixth', OInd _ṣaṣṭhá-_ 'sixth', TochA _ṣkäṣt_ 'sixth', TochB _ṣkaste_ 'sixth'; from _*s(u̯)eḱs-eto-_: OIr _seissed_ 'sixth', Wels _chweched_ 'sixth'. Ordinal formations reflect layers of development from those with only the theme vowel (Gaulish, Avestan), to later ordinal suffixes in _*-to-_, remodeled in Old Irish and Welsh with still later _*-eto-_.

Seven

*septḿ̥ 'seven'. [_IEW_ 909 (_*septm̥_); GI 743–744 (_*sep^{h}t^{h}m̥_); Wat 58 (_*septm̥_); BK 188 (_*sab-/*səb-_)]. OIr _secht n-_ 'seven', MWels _seith_ (< _*heith_ with Latin influence) 'seven', Lat _septem_ 'seven', ON _sjau ~ sjō_ 'seven', OE _seofon_ 'seven' (> NE _seven_), OHG _sibun_ 'seven', Goth _sibun_ 'seven', Lith _septynì_ 'seven', OCS _sedmĭ_ 'seven', Rus _semĭ_ 'seven', Alb _shtatë_ (dial. _shëtatë_) 'seven', Grk _ἑπτά_ 'seven', Arm _ewtʻn_ 'seven', Hit _sipta-_ 'seven', perhaps _sipta-_ in _sipta-miya_ kind of drink (with seven ingredients?, cf. NE _punch_ 'drink with five ingredients'), Av _hapta_ 'seven', Mitanni _satta-wartanna_ 'seven laps (of a horse around a track)', OInd _saptá_ 'seven', TochA _ṣpät_ 'seven', TochB _ṣukt_ 'seven'. The IE form for 'seven' may be a PIE borrowing from Semitic feminine _*s-b-ʼ-tu_ (in the role of an abstract noun, _*sibʼatt_ 'a seven, the number seven') with the IE suffix _*-m-_ on analogy with _-m-_ in 'nine' and 'ten' ordering it into the new series 'one' to 'ten' (or alternatively from Proto-Semitic _*šab-at-u-m_ [stem + fem. abstract marker + nom. + definite marker]). It has also been suggested that Kartvelian _*swid-_ 'seven' is related while Hurrian _šittanna_ 'seven laps', translating Mitanni _satta-wartanna_ 'seven laps', suggests a shared fourteenth century BC Anatolian and upper Mesopotamian culture word. All of this seems to argue for the widespread dissemination of a (presumably Proto-Semitic) word for 'seven' among a series of language families but not Sumerian where we find _imin_ 'seven' (literally 'six + one').

*septm̥-mós, later **_*septm̥-tos ~ *septm̥-(e)tos_** 'seventh'. [_IEW_ 909 (_*sept$_{(e)}$mos_); GI 743–744 (_*sep^{h}t^h-mo-_); BK 188 (_*sab-/*səb-_)]. From _*septm̥-mós_: Lat _septimus_ 'seventh', OPrus _sepmas_ 'seventh', Lith _sẽkmas_ 'seventh', OCS _sedmŭ_ 'seventh', Grk _ἕβδομος_ 'seventh', Hit _7-an-na_ 'but for the seventh time', _sapta-_ in the Cappadocian place-name _sapta-nigra_ 'Seventh sister' (with nasal assimilation), MPers _haftom_ 'seventh', OInd _saptamá-_ 'seventh'; from _*septḿ̥-tos, *septm̥-etos_: OIr _sechtmad_ 'seventh', Wels _seithfed_ 'seventh', OE _siofþa ~ siofoða_ 'seventh' (> NE _seventh_), OHG _sibunto_ 'seventh', Lith _septiñtas_ 'seventh', Latv _septîtais_ 'seventh', Alb _shtatë_ 'seventh', Grk (Homeric) _ἑβδόματος_ 'seventh' (cf. _τρίτατος_ 'third'), Av _haptaθa-_ 'seventh', OInd _saptátha-_ 'seventh', TochA _ṣäptänt_ 'seventh', TochB _ṣuktante_ 'seventh'; _*septm̥-tis_: ON _sjōndi_ (< Proto-Gmc _*sijundi-_) 'seventh', _sjaund_ 'set of seven, seventh day after a death, wake'. Productive IE ordinal (_*-to-, *-eto-_) and abstract (_*-ti-_) suffixes are innovating formations that replace older ordinal derivations with only the theme vowel.

Eight

*oḱtṓ ~ *oḱtṓu (or **_*h$_x$oḱtṓ ~ *h$_x$oḱtṓu_**) (dual) 'eight' (< *'two fours'?). [_IEW_ 775 (_*oḱtō(u)_); GI 744 (_*oḱ^{h}t^{h}ō(u)_); Wat 45 (_*oktō(u)_)]. OIr _ocht n-_ 'eight', Wels _wyth_ 'eight', Lat _octō_ 'eight', ON _ātta_ 'eight', OE _eahta_ 'eight' (> NE _eight_), OHG _ahto_ 'eight', Goth _ahtau_ 'eight', CrimGoth _ohte_ 'eight', Lith _aštuonì_ 'eight', Latv _astuôņi_ 'eight', OCS _osmĭ_ 'eight', Rus _vósem_ 'eight', Alb _tetë_ 'eight', Grk _ὀκτώ_ 'eight', Arm _utʻ_ (< _*-pt-_, influence of _*septm̥_) 'eight', Av _ašta_ 'eight', _ašti-_ 'length measure, breadth of four fingers, palm', OInd (dual) _aṣṭā ~ aṣṭáu_ 'eight', TochA _okät_ 'eight', TochB _okt_ 'eight'. Dual forms for 'eight' suggest that the root form was related to 'four', a suggestion reinforced by Av _ašti-_ 'breadth of four fingers, palm' beside Av _ašta_ 'eight'. Alternatively, _*oḱtōu_ 'eight' may be derived from full-grade roots: _*ék^{w}etu-, *ok^{w}etu-_ or _*ék^{w}etu̯ó(s), *ók^{w}etu̯ó(s)_ from which PIE _*k^{w}etu̯or-_ 'four' may be a zero-grade. With addition of a numeral determinative _*-r_, this zero-grade form, _*k^{w}etu̯o-r-_ 'four', would have become ordered into the new numeral system. A dual of such

an early IE form for 'four' would thus be the prototype for the dual *oḱtṓu 'eight'. Instances in which older numeral systems formed higher numbers by duplicating forms for lower numbers are well known. For example, an Old Sumerian system formed 'six' *peš-peš* from *peš* 'three', and Finno-Ugric **kwet* 'two' is the basis for **kwet-kwet* 'four'. It is thus not unreasonable that IE would use the dual of the lower number for double its value.

***oḱt-u̯ós ~ *oḱtōu̯os** 'eighth'. [*IEW* 775 (**oḱtō(u)*)]. Lat *octāvus* 'eighth', Grk *ὄγδο(ϝ)ος* 'eighth', OPhryg *οτυϝοι ϝετει* 'in the eighth year', Luv *8-wa-a-i* 'eighth'. With early **-m-* formations on analogy with **septm̥-o-* re-analyzed as **septm̥-mo-*: OPrus *asman* 'eighth', Lith *ãšmas* 'eighth', perhaps Latv *asmīte* 'measure of land', OCS *osmŭ* 'eighth', Rus *vos'mój* 'eighth', Av *aštəma-* 'eighth', OInd *aṣṭamá-* 'eighth'; with later abstract and ordinal suffixes: **-t-*, **-ti-*, **-to-*, **-eto-*: OIr *ochtmad* 'eighth', Wels *wythfed* 'eighth', ON *ātti* 'eighth', *ætt* 'group of eight runes', OE *eahtoða ~ eahteða* 'eighth' (> NE *eighth*), OHG *ahtodo* 'eighth', Lith *aštuñtas* 'eighth', Latv *astôtais* 'eighth', Alb *tetë* (dialectally *tetët*) 'eighth', Grk (Homeric) *ὀγδόατος* 'eighth', HierLuv *8-wa-a-ī = 8-wa^{n}za/i* (**hak?taunanzi?*) 'eighth', TochA *oktänt* 'eighth', TochB *oktante* 'eighth'. The lack of consistency in the formation of the ordinal 'eight' suggests that its creation was of post-PIE date.

See also NUMERALS (FOUR).

Nine

***(e)néu̯n̥** (or **$h_1$néu̯n̥**?) 'nine'. [*IEW* 318–319 (**e-neu̯en*); GI 744 (**neu(e)n-*); Wat 45 (**newn̥*)]. OIr *noí n-* 'nine', MWels *naw* 'nine', Lat *novem* 'nine' (ending influenced by *septem* 'seven'), (inscription) *nove* 'nine', ON *nīu* 'nine', OE *nigon* (on analogy with *seofon* 'seven') 'nine' (> NE *nine*), OHG *niun* 'nine', Goth *niun* 'nine', CrimGoth *nyne* 'nine', Lith *devynì* 'nine', Latv *deviņi* 'nine', OCS *devętĭ* 'nine', Rus *dévjatĭ* 'nine' (initials of Balto-Slavic forms on analogy with 'ten', i.e., **d-*), Alb *nëndë ~ nëntë* (Gheg *nândë ~ nântë*) 'nine', Thracian *ενεα* 'nine', Myc *e-ne-wo pe-za* 'nine-footed (table)', Grk *ἐννέα* 'nine', Arm *inn* 'nine', Lycian *nuñ-* in *nuñt-ata* (< **nin-ant*) 'derivative of nine', Hit *9-an-ti happesni* 'to the nine limbs', Av *nava* 'nine', Mitanni *na-wartana* (< **nawa-wartanna*) 'nine laps (of a horse around a track)', OInd *náva* 'nine', TochAB *ñu* 'nine'. A common IE form, perhaps from 'new, the new number', with innovations under the influence of neighboring numbers.

***neu̯n̥-nos ~ *neu̯n̥-mos** (nasal dissimilation or influence of 'seventh' and 'tenth') 'ninth'. [*IEW* 319 (**e-neu̯eno-*); GI 744 (**neu(e)n-*)]. Lat *nōnus* 'ninth', ON *niundi* 'ninth', Hit *9-na* 'but the ninth', *9-an-ki* 'nine times', Av *naoma-* 'ninth', OInd *navamá-* 'ninth'; later **neu̯n-(e)tos*: OIr *nōmad* 'ninth', MWels *nawuet* 'ninth', Gaul *namet[ ]* 'ninth', ON *niunde* 'ninth', *niund* 'set of nine', OE *nigoða* 'ninth' (> NE *ninth* with influence from cardinal number), OHG *niunte ~ niunto* 'ninth', Goth *niunda* 'ninth', OPrus *newīnts* 'ninth', Lith *deviñtas* 'ninth', Latv *devîtais* 'ninth', OCS *devętŭ* 'ninth', Rus *devjátyj* 'ninth', Alb *nëndë ~ nëntë* 'ninth', Grk *ἔνα(ϝ)τος* 'ninth', Luv *9-un-za* 'ninth', HierLuv *9-ī, nu-ī = 9-za/i* or *nu^{n}za/i* 'ninth', *9-wa-a-ī = 9-wa^{n}za/i* or *nuwan^{n}za/i* 'ninth', TochB *ñunte* 'ninth'.

Ten

***déḱm̥ ~ *déḱm̥-t- ~ *deḱu-** 'group of ten, ten'. [*IEW* 191 (**deḱm̥*); GI 744 (**t'eḱ^{h}m̥*); Wat 11 (**dekm̥*); BK 132 (**t'ak[^{h}]-/*t'ək[^{h}]-*)]. From **deḱu*, **deken*: OIr *deich n-* 'ten', Wels *deg* 'ten', Lat *decuria* 'group of ten'; from **deḱm̥*: Lat *decem* 'ten', ON *tīu* 'ten', OE *tīen* 'ten' (> NE *ten*), OHG *zehan* 'ten', Goth *taíhun* 'ten', CrimGoth *thiine* 'ten', Grk *δέκα* 'ten', Arm *tasn* 'ten', Av *dasa* 'ten', OInd *dáśa* 'ten', TochA *śäk* 'ten', TochB *śak* 'ten'; from **deḱm̥-t(i)-* 'group of ten, ten': OPrus *dessimpts* 'ten', Lith *dẽšimts ~ dešimtìs* 'ten', Latv *desimt* 'ten', OCS *desętĭ* 'ten', Rus *désjat* 'ten', Alb *dhjetë* 'ten'. PIE **deḱm̥* may be from **de-kont-*, **de-ḱm̥t-* 'two units, two hands; unit of ten' (< **ḱm̥tóm* 'unit, large unit; hundred'). At least as plausible is a relation to **deḱ-* 'take' from which **deḱs-*, an old word for 'hand' or 'right hand' (cf. Lat *dexter* 'right hand', etc.), if IE hand counting started with the left hand and ended with the tenth finger on the right hand.

***deḱm-os ~ *deḱm̥-mos ~ *deḱm̥-tos ~ *deḱm̥-(e)tos** 'last member in a set of ten, tenth'. [*IEW* 192 (**deḱ$_{e}$mo-s*); GI 744 (**t'eḱ^{h}m̥-t^{h}-*); BK 132 (**t'ak[^{h}]-/*t'ək[^{h}]-*)]. **deḱm-os*, *deḱm̥-mos*: Corn *dēgves* 'tenth', Lat *decimus* 'tenth', Av *dasəma-* 'tenth', OInd *daśamá-* 'tenth'; from **deḱm̥-mo- = *deḱm̥-to-*: OIr *dechmad* 'tenth', MWels *decuet* 'tenth', Gaul *decametos* 'tenth'; from **deḱm̥-tos*: ON *tīunda*, *tiunā* 'tenth', OE *tēoða*, *tegeða* 'tenth', OHG *zehanto* 'tenth', Goth *taíhunda* 'tenth', OPrus *dessimts* 'tenth', Lith *dešim̃tas* 'tenth', Latv *desmitais* (with metathesis, cf. dial. *desimtais*) 'tenth', OCS *desętĭ* 'tenth', Rus *desjátyj* 'tenth', Alb *dhjetë* (dialectally *dhjetët*) 'tenth', Grk *δέκατος* 'tenth', Luv *10-ta* 'ten-fold', TochA *śkänt* 'tenth', TochB *śkante* 'tenth'.

Teen Formations

Most linguistic expressions of the teens combine the digit word with a 'ten' form using the mathematical function of addition. The syntactic order may be 'digit + ten' (cf. Lat *duodecim* 'twelve', lit. 'two-ten', and similarly Greek, Armenian, Avestan, Old Indic) or, less commonly, 'ten + digit' (Crimean Gothic, Tocharian, e.g., TochB *śak-wi* 'twelve', lit. 'ten-two'). While these two examples show the addition function by simple juxtaposition, there may also in some languages be a connecting word such as 'and', e.g., Lat *decem et duo* 'twelve' or *decem tris-que* 'thirteen'. Non-additive formations include the Germanic and Lithuanian type exemplified by Goth *twalif* 'twelve', lit. 'two left (after ten)' or the subtractive type exemplified by Lat *duo dē vīgintī* 'eighteen', lit. 'two from twenty'. As can be seen even from these examples a particular language may simultaneously use more than one system side by side. Regularities result from creation at a period when the internal numeral system had already attained its inner decimal coherency. Irregularities, by contrast, represent

valuable relics of the older system(s) now lost to us. The tantalizing relic pieces may be IE or the result of IE contact with non-IE systems. They may even reflect the generalization of a system that was used to quantify a specific kind of commodity (e.g., a 'dozen' for eggs, 'sixty' for time measurement) for more general uses in a particular language. Examples are given for 'twelve' and 'fifteen'.

Twelve

du̯ō dek̂m̥ ~ *dek̂m̥-du̯o ~ *du̯o-dek̂u 'twelve' < 'two (and) ten, ten (and) two'. [*IEW* 228]. OWels *deuδeg* 'twelve', Wels *deuddeg* 'twelve', Lat *duo-decim* 'twelve', *decem et duo* 'twelve', CrimGoth *thunetua* (< **thiine-tua* 'ten-two') 'twelve', Grk ***δώδεκα*** 'twelve, two-ten', ***δυο-καί-δεκα*** 'twelve, two and ten', Arm *erko-tasan* 'twelve', Av *dva-dasa* 'twelve', OInd *d(u)vā-daśá* 'twelve', TochA *śäk-wepi* 'twelve' (lit. 'ten-two-and'), TochB *śak-wi* 'twelve'. Alternative derivations with 'two left (after ten)': ON *tolf* 'twelve', OE *twælf* 'twelve' (> NE *twelve*), Goth *twalib-wintrus* 'twelve (lit. 'two-left') winters, twelve years old', Lith *dvýlika* 'twelve', Latv *divipadsmit* 'twelve' (< 'two after ten'); with 'two on ten': OCS *dŭva na desę* 'twelve' (< 'two on ten'), Rus *dvenádcatĭ* 'twelve'.

Fifteen

penkʷe dek̂m̥ 'fifteen'. [*IEW* 808]. OWels *pymtheg* (< **penkʷe-dek̂u*) 'fifteen', Lat *quīndecim* 'fifteen', ON *fimtān* 'fifteen', OE *fīftēne* 'fifteen' (> NE *fifteen*), OHG *finfzehan* 'fifteen', Grk ***πεντεκαίδεκα*** 'fifteen', Arm *hingetasan* 'fifteen', Av *pančadasa* 'fifteen', OInd *páñcadaśa-* 'fifteen'. Other formations are seen in TochA *śäk-päñpi* 'fifteen', TochB *śak-piś* 'fifteen' ('ten' + digit); Lith *penkiólika* 'fifteen' (digit + 'left' [after ten]); Latv *piecpadsmit* 'fifteen' (digit + 'after' + 'ten').

Decade Formation

Most IE languages show more or less extensive reflexes of an old decade formation that is a variant of PIE **k̂m̥tóm*, either **-k̂omt(h̥a)* in 'thirty' through 'ninety' or **k̂m̥t-* in 'twenty' (**u̯i-k̂m̥tih*$_1$). These formations are found in Latin, Greek, Armenian, and Tocharian, and to 'fifty' in Avestan and Old Indic. For its lower decades (to 'sixty') Germanic has substituted Proto-Gmc **-tigu*, which may reflect a PIE **dek̂u-* 'decade' (cf. Lat *decuria* 'decade, group of ten') or a contamination of this word, or something similar, with a Germanic word for 'score' (cf. CrimGoth *stega* 'score'). Germanic clearly went its own way with the upper decades. Without abandoning (Proto-Gmc) **tigu* of the lower decades, the Germanic languages added a **k̂m̥tóm*, arguably from **(d)k̂omt-*, to the upper decades, all the way to '120'. Thus we have OE *hundseofontig* 'seventy', *hundeahtatig* 'eighty', *hundnigontig* 'ninety', *hundtēontig* 'hundred', *hundændlæftig* '110', *huntwelftig ~ hundred* '120'. From 'sixty' to 'ninety' Avestan and Old Indic show a different formation, one made by the suffixation of **-ti-*.

Besides multiplication (e.g., 'fifty' as '5' X '10') there are occasional cases of division, e.g., Celtic and Slavic where 'fifty' is 'half-hundred', or of multiplication using '20' rather than '10' as the multiplier. Thus Albanian made use of a 'twenty' unit (*-zet*, formally reflecting PIE **u̯ī-k̂m̥tih*$_a$ 'twenty') in 'twenty', 'forty', 'sixty', and 'eighty', but digit + 'ten' for the uneven decades.

Given the wide variation in the use of otherwise old base unit forms and the comparative asymmetries among decade systems in the daughter languages, one may conclude that the decades, like the teens, arose independently from a PIE system in which decimal decades were unlikely to be the only system. East Semitic Akkadian texts, for example, predating our earliest IE texts, show competing decimal and sexagesimal systems. The asymmetries in fact are valuable relics of successive remakings of numeral systems that stand to tell us more about how numeral systems evolved from an IE that post-dated the late fourth millennium BC technologies of the Ancient Near Eastern towns.

Examples are given for 'twenty', 'thirty', 'fifty' and 'sixty'.

Twenty

u̯īk̂m̥tih*$_1$** (< ***u̯i-(d)k̂m̥tih*$_1$**) (dual) 'twenty' (< *'two decades, a double set of decades'). [*IEW* 1177 (**u̯ī-k̂m̥t-ī*); GI 744–745 (**wī-k̂ʰm̥tʰ-(iH)-*)]. OIr *fiche* 'twenty', OWels *uceint* 'twenty', MWels *figgit* 'twenty', Lat *vīgintī* 'twenty', ON *tottogo* 'twenty', OE *twēgentig* (< **-tigu*) ~ *twēntig* 'twenty' (> NE *twenty*), OHG *zweinzug* 'twenty', Alb *njëzet* 'twenty' (where *një* is 'one' and *-zet* < **u̯ik̂m̥ti*; cf. *dyzet* 'forty' from *dy* 'two' + *-zet*), Grk ***εἴκοσι (Homeric ***ἐείκοσι***, Doric ***(ϝ)ίκατι***) 'twenty', Arm *k'san* 'twenty', Av *vīsaiti* 'twenty', OInd *viṃśatí* 'twenty', TochA *wiki* 'twenty', TochB *ikäṃ* 'twenty'. Baltic and Slavic show clearly innovating strategies where **du̯i-* serves as the basis for compound formations of 'two' plus 'ten', e.g., Lith *dvì dẽšimti ~ dvìdešimt(s)* 'twenty'.

See also CUT.

Thirty

trī-k̂omt(h̥a) (< ***tri-(d)k̂omt(h̥a)***) 'thirty'. [*IEW* 192; GI 745 (**thrī-k̂ʰomtʰ-*)]. OIr *trīcho* (*DIL tricha*) 'thirty', OWels *trimuceint* 'thirty', Lat *trīgintā* 'thirty', Grk ***τριάκοντα*** 'thirty', Arm *eresun* 'thirty', Av *θrisa(n)t-* 'thirty', OInd *triṃśát* 'thirty' (Old Indic has transferred the nasal from the second to the first syllable), TochA *taryāk* 'thirty', TochB *täryāka* 'thirty' (at some point in the history of Tocharian the **-omt* of the decades fell together phonologically with the common neuter singular ending **-om*, prompting its replacement by **-ā*, the common neuter plural ending). Other formations in Germanic: ON *þrið tiger* 'thirty', OE *þrittig* 'thirty' (> NE *thirty*), OHG *drīzzug* 'thirty', Goth *þrins tiguns* (acc.) 'thirty'; in Baltic and Slavic: Lith *trìsdešimt ~ *trỹs dẽšimtys*, Latv *trīsdesmit* (with **-dek̂m̥ti-* 'group of ten, ten').

Fifty

penkʷē-k̂omt(h̥a) (< ***penkʷe-(d)k̂omt(h̥a)***) 'fifty'. [*IEW* 808 (**penkᵘē-k̂onta*); GI 745 (**pʰenkʰᵒe-k̂ʰomtʰ-*)]. OIr

coīca 'fifty', Lat *quīnquāgintā* 'fifty', Grk πεντήκοντας 'fifty', Arm *yisun* 'fifty', Av *pančāsatəm* 'fifty', OInd *pañcāśát* 'fifty', TochA *pñāk* 'fifty', TochB *piśāka* 'fifty'. Other formations, in Germanic: ON *fimm tiger* 'fifty', OE *fīftig* 'fifty' (> NE *fifty*), OHG *funfzug* 'fifty', Goth *fimf tiguns* (acc.) 'fifty'; in Baltic and Slavic: Lith *peñkios dẽšimtys* 'fifty', Latv *piecdesmit* 'fifty', Bulg *pedesce(t)* 'fifty' (with **-dek̂m̥ti-* 'group of ten, ten'); in Alb *pesëdhjetë* 'fifty' (lit. 'five-ten').

Sixty

***(k)s(u̯)ek̂s-k̂omt(h$_a$)** 'sixty'. [GI 745 (**s°ek̂^{h}s-k̂^{h}omt^h-*)]. OIr *sesca* 'sixty', Lat *sexāgintā* 'sixty', Grk ἑξήκοντα 'sixty', Arm *vat'sun* 'sixty', TochA *säksäk* 'sixty', TochB *ṣkaska* 'sixty'; other formations in Indo-Iranian: Av *xšaštī* 'sixty', OInd *ṣaṣṭí-* 'sixty' (digit + abstract forming suffix *-ti-*); in Germanic: ON *sex tiger* 'sixty', OE *sextig* 'sixty' (> NE *sixty*), OHG *seh(s)zug* 'sixty', Goth *saíhs tigum* 'sixty'; Balto-Slavic: Lith *šešiasdešimt* ~ *šẽšios dẽšimtys* 'sixty', Latv *sešdesmit* 'sixty', Ukr *šist-desját* 'sixty'.

See also HEAP.

The Higher Numbers

The well-known common IE form **k̂m̥tóm*, we have seen, has not always been unambiguously used to mean '100'. In historic times the base unit in Gmc **hunda-* means '120' in the long hundreds but '100' in the system of decimal calculation. It is not unlikely that this form has undergone reinterpretation many times over as different groups of IE-speakers needed a word to express the canonical base unit in their current number system. Opinions have been divided as to whether early Indo-Europeans had a word for the numeral '1000'. In the eastern languages we have **ĝhes-lo-*, apparently related to **ĝhésr̥* 'hand'. In the northwest of the IE world we find **tuh$_a$s-k̂m̥tii̯ós*, literally 'swollen hundred' or 'large hundred', used for '1000'.

Hundred

***k̂m̥tóm** 'unit, large unit, hundred'. [*IEW* 192 (**k̂m̥tóm*); GI 744 (**k̂^{h}m̥t^{h}om*); Wat 11 (**dkm̥-tom*)]. OIr *cēt n-* 'hundred', Wels *cant* 'hundred', Lat *centum* 'hundred', OE *hund* 'hundred', OHG *hunt* 'hundred', Goth *hunda* '100, 120' (Germanic also **hunda-* + **raða-* 'number' in ON *hundrað* '100, 120', OE *hundred* 'hundred' [> NE *hundred*], OSax *hunderod* '(long) hundred'), Lith *šim̃tas* 'hundred', Latv *simts* 'hundred', OCS *sŭto* 'hundred' (sometimes considered a borrowing from Iranian), Bulg *sto* 'hundred', Grk ἑκατόν (< **sem* + **k̂m̥tóm*) 'hundred', Lycian *sñta* 'unit of 10 or 100', Av *satəm* 'hundred', OInd *śatám* 'hundred', TochA *känt* 'hundred', TochB *kante* 'hundred'. Formally widespread and clearly old in IE. Perhaps **k̂m̥tóm* was originally '(numerical) unit', i.e., 'five' and related to Gmc **handu-* 'hand', and thus **de-k̂m̥t* 'two units', i.e., 'ten', and **(d)k̂m̥tóm* 'tenth decade', i.e., 'hundred'.

See also NUMBER.

Thousand

***tuh$_a$s-k̂m̥tii̯ós** 'thousand (< *'swollen hundred')'. [*IEW* 1083 (**tēu-*); GI 746 (**t^{h}us-k̂^{h}m̥t^{h}yom*); Wat 71 (**teuə-*)]. ON *þūs(h)und* 'host, large number, thousand', OE *þūsend* 'thousand' (> NE *thousand*), OHG *dūsunt* 'thousand', Goth *þūsundi* 'thousand', OPrus (acc. pl.) *tūsimtons* 'thousands', Lith *túkstantis* (dial. *tū́kstantis*) 'thousand', Latv *tūkstuōt(i)s* 'thousand', OCS *tysęšti* 'thousand', Rus *týsjačnyj* 'thousand'. A word of the northwest of the IE world.

***ĝhesl(ii̯)os** 'thousand'. [*IEW* 446 (**ĝhéslo-*); Wat 22 (**gheslo-*)]. Grk χῑ́λιοι (pl.) (dial. χήλιοι, χέλλιοι) 'thousand', Av *hazaŋra-* 'thousand', OInd *sahásram* 'thousand' (Indo-Iranian < **sm̥-* 'one' + **ĝheslo-* 'thousand'). A word of the eastern part of the IE world.

See also NUMBER. [C.F.J.]

Further Readings

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NUT

***kneu-** 'nut' (more particularly 'hazelnut'?). [*IEW* 558–559 (**kneu-*); Wat 2 (**ken-*); GI 547 (**k^{h}neu-*); Fried 77–80]. OIr *cnū* 'nut', Wels *cneuen* 'nut', Lat *nux* (< **knuk-*) 'nut', ON *hnot* 'nut', OE *hnutu* 'nut' (> NE *nut*), OHG *(h)nuz* 'nut' (Gmc < **knut-*). Northwestern dialectal term.

***h$_2$er-** 'nut'. [*IEW* 61 (**ar-*); GI 547 (**q^{h}ar-*); Fried 77–80]. Lith *ruošutỹs* 'nut', OCS *orěchŭ* 'nut', Rus *orékh* 'nut', Alb *arrë* (< **h$_2$erneh$_a$-*) 'walnut, nut tree', Grk (Hesychius) ἄρυα 'nut'. Hit ^{GIS}*harau-* 'poplar' is phonetically a regular correspondent of the Slavic, Albanian, and Greek words, but the semantic distance is very great. A term at least of the central region of the IE world.

There are two terms for the nut and/or nut trees. The first of them, **kneu-*, although only attested in the generic meaning as 'nut', may have been limited to the 'hazelnut' because that tree flourished in western Europe during the Atlantic period and later, and the term for hazel, **kosVlo-*, is reflected in the same three western stocks.

The second term, **h$_2$er-*, on the other hand, may have been used only for the walnut or the chestnut, in the respective zones where they flourished: southeastern Europe, the Ukraine, the Caucasus, and the circum-Mediterranean. The minimal shape of this second term has been inferred from the many forms in Slavic, several Baltic forms, the admittedly

problematic Greek form from Hesychius and even Albanian *arrë*—variously denoting 'nut', 'nut tree' or 'walnut'.

Whatever the linguistic evidence, pre-PIE peoples and PIE peoples were surely aware of the major and minor nut trees as valuable sources of food and almost as surely had various terms (or terms with qualifying adjectives), some of which may have been in complementary distribution over the area of the homeland and later migrations. The linguistic evidence, however, is not particularly consonant with a course of migrations. The dialectally most restricted form, **kneu-*, if denoting the nut of the hazel, is inexplicably confined given the distribution of the hazel and hazel nuts all over Europe and much of Asia which were heavily exploited at least since the Mesolithic period onwards. The prehistoric distribution of the walnut, on the other hand, was quite limited. At dates prior to 3000 BC in Europe it would appear to have been largely confined to north Italy and the northwest Balkans, the Alps and possibly south-central Europe and it only extends into the south Balkans and Greece in the first millennium BC. It is also reported as having survived the last glaciation in a refuge in the north Pontic area. Its major expansion has sometimes been credited to human introduction from northeast Turkey, the Caucasus and north Iran but this expansion did not occur until well into the Bronze Age, i.e., well after the initial expansion and divergence of the IE languages.

See also HAZEL; OAK; TREES. [P.F., J.P.M.]

·O·

OAK

pérkʷus 'oak (*Quercus* spp.)'. [*IEW* 822–823 (**perkᵘu-s*); Wat 50 (**perkʷu-*); GI 526–528 (**pʰerkʰᵒu-*); Buck 8.61; Fried 133–140]. Gaul *ἕρκος* 'oak-forest', Lat *quercus* (with assimilation of **p...kʷ* to **kʷ...kʷ*) 'oak', ON *fjǫr* 'tree', OHG *fereh-eih* 'oak'. From a derivative **perkʷu-hₓn-* we have Gaul *Hercynia silva*, the Celtic and then Roman name for the forested mountains of central Germany (OE *firgen-* 'mountain', OHG *Fergunna* 'Erzgebirge', Goth *faírguni* 'mountain(-chain)' may be native cognates or early borrowings from Celtic), ON *Fjǫrgyn* (the mother of Þórr), OPrus *percunis* 'thunder', Lith *perkúnas* 'thunder', *perkūnias* 'thunder-storm', Latv *pḕrkuons* 'thunder'. The Baltic forms particularly, but the Old Norse to an extent, seem to show a semantic crossing of **perkʷu-hₓn-* '± the oaken one' with **peruhₓno-* '± he of the thunder-stone', e.g., ORus *Perúnŭ* 'thunder god', Hit *peruna-* 'cliff', all from **per-* 'strike'. OInd *parjánya-* 'rain, raincloud; god of rain' would be a similar but independent formation from **per-g-* 'strike'. OInd *parkaṭī-* 'holy fig-tree' is sometimes placed here but is only attested in classical Sanskrit and, because of its very late attestation and its meaning, is a doubtful reflex of **pérkʷus* 'oak'; tempting, but altogether isolated in Indic, is Panjabi *pargāī* 'holly oak (*Quercus ilex*)'. Without the Indic cognates, the word would be restricted to the northwest group of stocks. The role of the oak tree in (early) Germanic psychology and religion would seem strongly to support including a set of metaphorical extensions meaning 'life' and the like, i.e., ON *fjǫr*, OE *feorh*, or 'man' and 'world', i.e., Goth *faírhvus*.

In Germanic we also find ON *fura* 'pine', OE *furh-wudu* 'pinewood' (> NE *fir*), OHG *for(a)ha* 'pine', Italian (dialect of the Trentino) *porca* 'fir' (borrowed from Raetic?) which would seem to derive from a dialectal PIE **pŕ̥k⁽ʷ⁾ehₐ-* or **púrk⁽ʷ⁾ehₐ-*. If the former, it might be a substantivized adjective. A century of unanimity says that, despite the categorical semantic incompatibility between 'oak' and 'pine', **pr̥kʷehₐ-* belongs to the oak set (and missing links may be found—for example, the occasional cross-over between these genera in other languages).

hₐeig- 'oak'. [*IEW* 13 (**aig-*); GI 531 (**aik'-*); Buck 8.61; Fried 132–133]. ON *eik* 'oak', OE *āc* 'oak, ship' (> NE *oak*), OHG *eih* 'oak', Grk *αἰγίλωψ* 'oak'. Possibly Lat *aesculus* 'mountain oak'. Late dialectal status for the west and center of the IE world

gʷelhₐ- 'acorn'. [*IEW* 472–473 (**gᵘel-*); Wat 25 (**gʷelə-*); GI 530 (**kʷ̥elH-*); Fried 131–132]. Lat *glāns* 'acorn', OPrus *gile* 'acorn, oak', Lith. *gìlė* 'acorn', Latv *zīle* 'acorn', OCS *želǫdŭ* 'acorn', Rus *želudĭ* 'acorn', Grk *βάλανος* 'acorn', Arm *kaɫin* 'acorn', OInd *gula-* 'acorn, penis, clitoris'. Distribution assures PIE status.

The Lat *quercus* 'oak' is, by regular phonological rules, clearly a good cognate of many Germanic forms meaning 'oak' or also 'mountain(chain)' as in Gothic (perhaps earlier denoting 'oak forest') which is perhaps cognate with Celtic phrases for 'oak forest', e.g., *Hercynia silva*. There is, incidentally, natural typological evidence for semantic shifts between these various 'oaken' meanings. Some of the strongest linguistic evidence is from Baltic and Slavic with links, especially, to 'thunder', 'thunder-god', or 'high god' and credible correspondences in sound, e.g., ORus *Perúnŭ* and Lith *Perkúnas*. The various Baltic and Slavic forms, to continue, are surely cognate with OInd (Vedic) *Parjánya-* 'god of storm', who impregnates the earth with rain, and a related set of Indic forms for 'tree', 'mountain' and 'cliff'. The final and perhaps most problematic link in the chain leads us to include forms in Hittite for 'cliff' and 'strike' which fall into a mythological

equation that is almost isomorphic to one in Old Norse: in Hittite, a great cliff, *Perunas*, gave birth to a lithic monster who was obliged to kill the enemy of his father, whereas in Old Norse *Fjǫrgyn* (< *perk^w-) gives birth to Þōrr who is called upon to slay his father's enemies with a stone hammer. Pulling together the many strands in seven stocks, we may conclude that *perk^w- meant 'oak' but by diverse routes became associated with or even applied to a syndrome of meanings including 'stone', 'storm', 'mountain', 'cliff' and a god. The motives for the associations are various, e.g., the tree is connected with thunderstorms because it attracts lightning and tends to be a source of names for mountains, e.g., *Das Eich* in German. While most strongly attested in five "central" stocks, *perk^w- has enough other outliers and buttresses in Indic to make this etymon PIE. The 'oak' as a 'thunder-deity', incidentally, was borrowed into various Uralic languages, e.g., Finnish *perkele* 'devil, Satan', Estonian *pergel* 'devil'.

The second oak name, *h$_a$eig-, is mainly supported by two stocks, Germanic and Greek, in which there is a metonymic extension to artifacts for which oak wood is singularly suited, e.g., ship, spear, shield. Probably cognate was the first element in Lat *aesculus* 'mountain oak'. In sum, *h$_a$eig- is dialectally limited and probably a late form, possibly used for a particular species of oak.

Finally, the word for 'acorn' is widely reflected and almost universally accepted as very early IE; it is often cited in support of the phoneme *g^w. The meaning is at least once extended metonymically to the tree itself and this was probably the basic connotation of the term in PIE. The meaning is also extended metaphorically, as in classical Latin to 'an acorn-shaped bullet' and '*glans penis*' as was also the case in Old Indic and it seems likely that 'head of the penis' was another secondary connotation of this term. The fact that acorns and acorn mast were important in ancient times as food for both humans and pigs is correlated with the solid archaeological and philological evidence for hog-raising in early times. The acorn was integral to the oak complex in the early religion of the Celts, Germanic peoples and Greeks and probably others; the consumption of acorns by the Celtic druids was believed to provide them with their powers of divination. Consistent with this, the root *g^{w}elh$_a$- is of the animate gender, unlike the names of other edible fruits.

That the oak was central in PIE myth and religious ritual is shown by the presence, in half the IE stocks, of sacred oak groves, sacred oakwood fires, and rites involving, concretely, the ingestion of acorns (by druids) and the cultivation of mistletoe and, more generally, by the interwoven symbolic complexes of priest/shaman and, on the other hand, the association of the oak with such things as thunder and the high god. The oak was the main nexus between a set of ideas about the supernatural and a set of ideas about the arboreal habitat.

Pollen evidence indicates that the oak, which is represented in Europe by no less than twenty-two species, began spreading northwards from its refuge areas in the Mediterranean across Europe by at least 9000 BC. By *c* 6000 BC it had covered northwest Europe although it would never penetrate further north than the southern portion of Scandinavia. The oak is also well attested in Anatolia, the Caucasus and in the Near East and is, consequently, without value as a diagnostic marker of the location of the early Indo-Europeans (although some facts of semantic nuance and rates of distribution may be suggestive). Charred remains of acorns are widely known across Eurasia through prehistory and attest its use as fodder or, with appropriate roasting, boiling, or grinding with leaching, as food for human consumption. Oak was also widely employed in archaeological contexts, especially as a structural material in houses, trackways, etc., as well as in the manufacture of a variety of implements.

See also GROVE; MISTLETOE; THUNDER GOD; TREE; TREES. [P.F.]

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OAR

?*h$_1$erh$_1$trom 'oar, paddle'. [*IEW* 338 (*erə-ter-*); Wat 17 (*erə-*); GI 582 (*erH̥-*); Buck 10.85]. Lith *irklas* 'oar', OInd *arítra-* 'oar'. Though confined to only two stocks, this word may be of late PIE antiquity. It is regularly formed by the addition of the instrumental suffix to the verb *h$_1$erh$_1$- 'row'. Different in formation but identical in meaning are OIr *rām(a)e* (*DIL rāma*) 'oar', Lat *rēmus* 'oar', ON *rōðr* 'steering oar', OE *rōðor* 'steering oar' (> NE *rudder*), OHG *ruodar* 'oar', Grk *ἐρετμόν* 'oar', *ἐρέτης* 'rower'.

Oars and paddles (of birch and ash) are known from the Mesolithic period onwards and with the reconstruction of a PIE 'boat', their ascription to the proto-language is certain, even if the lexical evidence is minimal.

See also BOAT; ROW; TOOL. [D.Q.A.]

OATH

***h$_1$óitos** 'a going; oath'. [*IEW* 295 (*oi-to-*); Wat 45 (*oito-*)]. OIr *oeth* 'oath', OWels *an-utonou* 'perjury', ON *eiðr* 'oath', OE *āþ* 'oath' (> NE *oath*), OHG *eid* 'oath', Goth *aiþs* 'oath', Grk *οἶτος* 'course, fate', TochB *aittanka* 'directed toward'. Specialized in Celtic and Germanic to 'oath' because swearing practices indicate that oath-takers would walk (PIE *h$_1$ei- 'go') between pieces of slaughtered animal to give force to the oath. Although lacking cognate terms, this practice was also known among the Hittites and is recorded as late as the fourteenth century in Lithuania where one walked between the two halves of an ox slaughtered as a sacrifice. In the case of the Celtic and Germanic lexical correspondence,

both < *$h_1$oitos, there is no need to assume Celtic priority in this matter and it rather suggests a set of common institutional patterns. A late word of the IE west in this meaning although related to the Greek word for 'course, fate', where *$h_1$oitos 'a going' shows a different semantic specialization.

One recurrent theme concerning the taking of oaths in the traditions of various IE stocks is swearing by a sacred water, the Old Indic Ganges, the Greek Styx and the Old Norse Leiptr providing the best examples. Although it has been suggested that these are all rivers of the underworld (hence, one swore by the waters of the realm of the dead), there is some evidence to suggest that one should look elsewhere for the underlying meaning of this belief. In Old Indic tradition the source of the Ganges has been seen to be the heavens (*Mahābhārata* 3.107; *Rāmāyaṇa* 1.41–43) and it has been visualized as a waterfall from the sky while early Greek sources identify the Styx with a small river in Arcadia which has its origin at the base of a two-hundred meter waterfall. The name of the Old Norse river by which one swears, *Leiptr*, means 'lightning'. Hartmut Scharfe has suggested a common semantic core whereby one swore, not by underground rivers, but by the 'water-of-lightning', i.e., the downpour (cf. the waterfall imagery) of a thunderstorm, the lightning guaranteeing the force of the oath.

See also **Blame**; **Pray**; **Sacrifice**; **Swear**; **Underworld**. [E.C.P., D.Q.A., J.P.M.]

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OATS

$h_a$eu̯is 'oats'. [*IEW* 88 (*au̯iĝ-); GI 568; Buck 8.46; Bailey 497]. Lat *avēna* '(wild) oats', OPrus *wyse* 'oats' (the lack of an initial vowel, i.e., *awyse, is either a hearing or scribal error), Lith (pl.) *āvižos* 'oats', Latv (pl.) *àuzas* 'oats', OCS *ovĭsŭ* 'oats', Rus *ovës* 'oats', Khot *hau* '± oats' (the exact referent of the Khotanese word is not certain, in the contexts where it occurs it is clearly opposed to 'barley' and as there are other, well-identified, words for 'wheat' and 'millet' it is unlikely to be either of those). The exact PIE form of this word is difficult to reconstruct. Lat *avēna* would appear to reflect a PIE *$h_a$eu̯isineh$_a$- while Khot *hau* would reflect Proto-Iranian *aviša-, PIE *$h_a$eu̯iso-. The Baltic words appear to reflect a PIE *$h_a$eu̯iḱs, gen. *$h_a$eu̯iĝos, or the Slavic might reflect PIE *$h_a$eu̯iso- and the failure of the *-s- to retract to *-š- as expected after *-i- (and *-u-, *-r-, and *-k-) might be the result of the influence of some other variety of IE speech (as with the case of *trus- 'reed' and *tris- 'vine'). Possible support for PIE -ĝ- comes from Grk αἰγίλωψ (if < *$h_a$eu̯iĝi-l-ōk^{w}s 'that which looks like oats') 'wild oats', though it is usually assumed that the Greek should be discounted (and taken rather as containing *$h_a$eigi- 'goat'), cf. OHG *hafer* '(< PIE *kápros 'goat') 'oats'. Just possibly PIE *$h_a$eu̯i- is *$h_2$eu̯i- 'sheep' and we have different derivatives meaning '± sheep-fodder'.

Certainly oats were not highly considered as a grain in ancient times and they enter Greek and Roman history as horse fodder. However, Pliny the Elder reports that oats were used both for bread and in the form of porridge in the central Europe of his time. The semantic and phonological equations existing among Latin, Baltic, Slavic, and Iranian strongly suggest that this word was a widespread one in the PIE speech community.

In its wild form, oats *(Avena)* were widely distributed across the Mediterranean and eastwards to the Zagros Mountains. It appears infrequently on archaeological sites from the Mesolithic period onwards and its occurrence in Neolithic contexts is generally explained in terms of weeds infesting cultivated crops of wheat and barley. As farming moved north into poorer soils and colder climates, the hardier 'weed' (= oat) component of the crop became more important. The earliest appearance of domestic oats is set to Europe and not until about the second millennium BC, i.e., the Bronze Age. In Italy, as the linguistic evidence suggests, oats were generally wild and remains of oats recovered from both pre-urban Rome and Pompeii have been classified as wild/weeds although a single impression in daub from an Iron Age site has been identified as domestic. Oats are also known from Bronze Age contexts in Afghanistan. The popularity of oats in the north is largely due to their ability to thrive in moist temperate climates where they were able to replace wheat.

See also **Agriculture**; **Grain**; **Plants**; **Rye**. [D.Q.A., J.P.M.]

OBVIOUS see VISIBLE

OLD

sénos 'old'. [*IEW* 907–908 (*sen(o)-); Wat 57 (*sen-); GI 685 (*sen-); Buck 14.15; BK 167 (*s^{y}in^y-/*s^{y}en^y-)]. OIr *sen* 'old', Wels *hen* 'old man', Lat *senex* 'old', *senātus* 'senate' (= a group of old men, like Grk γερουσίᾱ 'council of elders' < γέρων 'old'), Goth *sinista* 'eldest', Lith *sẽnas* 'old', Grk ἔνος 'last year's', Arm *hin* 'old', Av *hana-* 'old', OInd *sána-* 'old'. A suffixed form *seneh$_1$i̯e/o-. [*IEW* 907] occurs in: Lat *seneō* 'age, become old', Lith *senéju* 'age, become old', and OInd *sanāyánt-* 'growing old'. Possible here also is Hit *zana-* 'decline, decrease, wane (of the moon)'. With representation in at least three regional groups, this seems a good candidate for PIE status.

See also **Old Man**; **Young**. [P.B.]

OLD MAN

ĝerh$_a$-ont- 'old man'. [*IEW* 390–391 (*ĝer-ont-); Wat 20 (*gerə-ont-); GI 151 (*k̂'erH-); Buck 14.15; BK 284 (*k'ir^y-/*k'er^y-)]. Grk γέρων 'old man', Oss *zærond* 'old', OInd *járant-* 'old man'; possibly TochB *śrān-* (< *ĝerh$_a$-ōn-?) 'old man'. A word of the eastern part of the IE world.

ĝerh$_a$-o-s 'old man'. [*IEW* 390–391 (*ĝer-); cf. Wat 20 (*gerə-); BK 284 (*k'ir^y-/*k'er^y-)]. Arm *cer* 'old man', NPers *zar* 'old man'. Since the formation is productive in both stocks

where the word is attested, it may be an independent creation in both. At best we have evidence for a word of the IE southeast.

Both terms referring to 'old man' are from a verbal root *ĝerh$_a$- 'age' used as a verb only in Indo-Iranian. ON *karl* 'old man', OE *ceorl* 'freeman of lowest class' (> NE *churl*), OHG *karal* 'old man' (Gmc < *ĝerh$_a$-lo-*), while Alb *grua* 'woman' and Grk *γραῦς* 'old woman' (< *ĝreh$_a$-u-*) are from the same root. The suffix is a common one, but the verb root 'to be old' is rather restricted, assuring that the formation is an old one. From this word are built terms such as Grk *γερουσία* (< *ĝerh$_a$ont-ih$_a$-*) 'assembly'. The observation that older men were the community leaders is hardly surprising in light of parallels in primitive societies and the unique Greek term does not entitle us to imagine an Indo-European "senate".

See also AGE SET; DEATH. [M.E.H.]

ONCE

***sem- ~ *semlo-m ~ *sm̥-** 'at one time, once; multiplicative of "one"'. [*IEW* 902–903 (**sem-*); GI 740 (**se/om-*); BK 184 (**sam-/*səm-*)]. [1] **sem-*: Grk *ἑκατόν* 'one-hundred'; [2] with **-l-* suffix: OIr *samlith* 'like, as', OLat (adv.) *semul* ~ *semol* 'at once', Lat *simul* 'at once', Umb *sumel* 'at once', Lat *semel* 'once, at one time', *simul* 'at the same time', OE *simbel* ~ *simble(s)* 'always', OHG *simble(s), simblum* 'always', Goth *simle* 'once, formerly'; [3] **sm̥-* : Grk *ἅμα* 'together, at once', *ἅπαξ* 'one time', Av *ha-kərət̰* 'once', OInd. *sa-kṛ́t* 'once'; **sem-, sm̥-* with other derivations often denoting 'always': Lat *sem-per* 'always', *sim-plex, sim-plus* 'single', OE *sin-nihte* 'eternal night', *sin-hīwan* 'spouse', Grk *ἁπλοῦς* 'singly, in one way', TochB *ṣek* 'always'; possibly Hit *a-as-ma* (< PIE **ō-smō-* with both 'one' roots) 'firstly', *1-an-ki, a-an-ki* 'once'.

See also NUMERALS (ONE). [C.F.J.]

OPINION

***me/oino-** 'opinion'. [*IEW* 714 (**mei-no-*); Wat 40 (**mei-no-*)]. OIr *mīan* 'wish, desire', Wels *mwyn* 'enjoyment' (Celt < **meino-*), OE *mān* 'meaning, mention, call', *mǣnan* 'mean, say' (> NE *mean*), OHG *meina* 'sense, meaning', *meinan* 'mean, say', OCS *měnjǫ* 'mention', TochB *onmiṃ* (< **h$_1$opi-meinom*) 'remorse'. Possibly late PIE.

See also THINK. [D.Q.A.]

OR

***-u̯ē** 'or'. [*IEW* 75 (**u̯é-*); BK 476 (**aw-, *wa/*ə*), 477 (**wa/*wə*)]. OIr *nō* 'or', OBret *nou* 'or', Lat *-ve* 'or', Grk *ἤ-(ϝ)έ* 'or', Av *vā* 'or', OInd *vā* 'or', TochB *wat* 'or'. Widespread and old in IE.

See also AND. [D.Q.A.]

ORACLE *see* PRAY

ORDER

***h$_a$értus** (gen ***h$_a$r̥tóus**) 'fitting, order'. [*IEW* 56–57 (**r̥t-*); Wat 3 (**ar-*); BK 383 (**ħar-/*ħər-*)]. Lat *artus* 'joint' (< *'fit tight together'), ON *ein-arðr* 'simple, correct', OE *eard* 'country, land; condition, fate', MHG *art* 'innate feature, nature, fashion', MDutch *aert* 'way, situation', Grk (Hesychius) *ἀρτύς* 'fit together', *ἀρτύω* 'arrange, prepare', Arm *ard* (gen. *ardu*) 'ornament, shape', Av *arəta-* 'order', OInd *ṛtú-* 'right time, order, rule', TochA *ārt-* 'praise, love', TochB *ārtt-* 'praise, love, be agreeable to' (< Proto-Toch **ārtw-*, a denominative of [PIE] **h$_a$ertu-*). From **h$_a$er-* 'fit'. Cf. Lat *rītus* 'rite', Av *aša* (deity), OInd *ṛtám* '(cosmic) order'. The underlying meaning would appear to be 'fitting' which had already developed metaphysical connotations in Indo-Iranian 'cosmic order, fitting in time and space', i.e., the cosmos must be kept in harmony by rituals and sacrifices which adjust the relationships between the microcosm and the macrocosm. Such an underlying concept may have already existed within PIE.

***i̯eu̯(e)s-** 'order or normality required by the rules of ritual'. [*IEW* 512 (**i̯euĝ-*); Wat 79 (**yewes-*); GI 706 (**yewo-*)]. OIr *uisse* 'just', OLat *ious*, Lat *iūs* 'law', Av *yaož-dā-* 'purification ritual', OInd *yóṣ-* 'prosperity'. While the Old Irish connection with these other forms has been challenged, there is still sufficient material between Latin and Indo-Iranian to suggest a PIE form. The Avestan term has been shown by Emil Benveniste to be the counterpart of *spənta* in the Iranian dichotomy of the sacred, referring essentially to ritual purity. The Latin concept of legality expressed by *iūs* means 'conformity with the prescribed normality' while the related *iūrāre* 'swear an oath' actually means 'promise in the face of the gods to comply with definite rules'. The Latin is accordingly connected with the ethical and religious foundations of law. In a penetrating study of the Latin and Indo-Iranian terms, Georges Dumézil has also stressed the differences between the Avestan and Vedic usage of their cognate terms. For example, Vedic *śáṃ yoḥ* 'well-being, salvation' is almost exclusively a gift of the gods, but its content is less "religious" than that of Avestan *yaoš* which stresses the connection between healing and fertility (i.e., progeny); Vedic *śáṃ yoḥ* always favors human beings, whereas Av *yaoš* applies to ritual objects or mythical concepts; Vedic *śáṃ yoḥ* relates to prosperity in general while Av *yaož-dā-* is conditioned by its object: the same formula is not used for the liquid or the wood offering as for "cleaning" with cow urine or water a man defiled by touching a corpse. For Dumézil, Indo-Iranian **yaoš* may be polarized in two ways: a) magically where a situation is achieved ritually, mystically or corporally, and b) normally where a normal situation is restored after defilement or illness. Thus, the underlying Indo-Iranian phrase **yaošdhā-* describes the progress toward an optimal situation or the correction of a defect (illness or defilement).

Lat *iūs*, however, developed in a totally different stage of social relations. Basically, it delimits the maximal area of judicial action or claim determined by the nature or conventional juridical position of a group or individual. When a client claimed a right (*iūs petit*), the Jurisconsultus indicated to him what he could claim under the circumstances. Thus, *iūs* indicated relations and everyone's *iūs* corresponded to

the *iūs* of someone else. As Dumézil stressed, Rome was a legally oriented society where each *iūs* was explicitly stated. The Roman *iūdex* indicated which *iūs* applies, e.g., before he inflicted punishment, he investigated whether there was a reason to punish. In contrast, the Av *yaošdātar-* 'the one who dispenses *yaoš*' was a purificator who provided a person or object "automatically" with *yaoš* by means of rites. It is obvious that the Latin reflexes of the IE noun **ieu(e)s* differ substantially in their meaning. But this does not exclude that a careful perusal of their sphere of use and socio-culturally determined semantic evolution should indicate that it belongs originally to the sacral domain, and should be listed among the legal terms of religious origin.

See also **Law**; **Put**; **Put In Order**. [E.C.P.]

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ORPHAN

h₂/₃orbhos 'orphan, heir'. [*IEW* 781–782 (**orbho-*); Wat 46 (**orbh-o-*); GI 651 (**orbʰo-*); Buck 2.75; BK 597 (**ur-ub-/*or-ub-*)]. OIr *orb(b)* 'heir, inheritance', *orb(b)a* 'inheritance of land, patrimony', Lat *orbus* 'bereft, deprived; parentless, childless, orphan', OCS *rabŭ* 'servant', Arm *orb* 'orphan', OInd *árbha-* 'child'. Derivatives: OIr *orbe* 'patrimony', ON *erfi* 'heir', OE *ierfa* 'heir', *ierfe* 'heritage, bequest', OHG *arbi* 'heir', Goth *arbi* 'heir' (Gmc < **arbijaz*), Grk *ὀρφανός* 'orphan, bereft' (> Late Lat *orphanus* > Alb *varfër* 'poor', Gheg *vorfën* 'poor'), ?Arm *arb-an-eak-* 'servant, fellow-worker'. The underlying verb is preserved in Hit *har(ap)p-* 'change status, sides'. Distribution assures PIE status.

Clear cognates meaning 'orphan' are found in Italic and Armenian. In Slavic and Indic the term has shifted to 'child' (and further in Slavic to 'servant'), indicating either a concern for the underaged survivors and their usual fate, a fact also revealed by many fairy-tales of the Cinderella type, or possibly that the underlying semantics was 'separated, put asunder, bereft (not only of one's parents but also of free status)'. Celtic and Germanic use a *ja*-stem derivative, perhaps originally an adjective, for the word also means 'inheritance', while Greek employs an original *no*-adjective which was later borrowed into Late Latin and thence into Albanian, where the native term had been lost.

See also **Widow**. [M.E.H.]

OTHER

h₂élios 'other'. [*IEW* 25 (**alios*); Wat 2 (**alyo-*); BK 464 (**hal-/*həl-*)]. OIr *aile* 'other', Wels *ail* 'other', Lat *alius* 'other', ON *ellar* 'otherwise', OE *elles* 'otherwise' (> NE *else*), *ellicor* ~ *elcor* 'otherwise', OHG *elles* 'other', *ellihor* ~ *ellichor* 'further', Goth *aljis* 'other', Grk *ἄλλος* 'other', Arm *ayl* 'other', TochA *ālak* 'other', TochB *alyek* 'other'. Perhaps here belong also OInd *arí-* 'stranger' (< *'the other'), *aryá-* 'hospitable lord' (< *'he of the other'). Cf. Lat *alter* 'second'. Widespread and old in PIE.

h₁ónteros 'other'. [*IEW* 37 (**anteros*); Wat 2 (**an-tero-*)]. ON *annarr* 'other, second', OE *ōðer* 'other' (> NE *other*), OHG *andar* 'other', Goth *anþar* 'other, second', OPrus *anters* 'other, second', Lith *añtras* 'other, second', Latv *uotrs* 'other', OCS *vŭtorŭ* 'second', Czech *úterý* 'Tuesday' (< 'second day'), OSorb *wutory* 'other'. From **h₁en-* ~ **h₁on-* 'that' (cf. Grk *ἔνη* 'the day after tomorrow', OInd *ána-* 'this, that', etc.) + **-tero-* '± of two'. Related are Av *anya-* 'other', OInd *anyá-* 'other'. The parallelism of the doublets **h₁on-tero-* ~ **h₁on-io-* on the one hand and **h₂el-tero-* ~ **h₂el-io-* on the other suggests that we might have relatively late, perhaps even post-PIE, creations on the basis of productive derivational processes. Alternatively, given the relative rarity of **h₂el-tero-* and **h₁on-io-*, these two may have been post-PIE creations in the stocks that show them, created through the crossing of the PIE "competitors", **h₂el-io-* and **h₁on-tero-*.

See also **Numerals (Two)**. [D.Q.A.]

OTTER

udrós 'otter (*Lutra lutra*)'. [*IEW* 79–80 (**aued-*); Wat 73 (**ud-ro-*); GI 447 (**wot'or-*); BK 483 (**wat'-/*wət'-*)]. Lat *lutra* 'otter', ON *otr* 'otter', OE *otor* 'otter' (> NE *otter*), OHG *ottar* 'otter', OPrus *udro* 'otter', Lith *údra* 'otter', Latv *ûdris* 'otter', Rus *výdra* 'otter', Grk *ἔνυδρις* 'otter', *ὕδρος* ~ *ὕδρα* 'water-snake', Av *udra-* 'otter', Oss *wyrd* ~ *urdæ* 'otter', OInd *udrá-* a kind of aquatic animal. The Old Indic form only occurs in lists of the names of animals to be sacrificed in an *aśva-medha* and is identified in one commentary as a 'water-cat', cf. OIr *coin fodorne* 'otter' (< *'water-dog'), NIr *dobharchū* 'water-dog', Wels *dwrgi* 'water dog'. A rather banal derivative of **uódr̥* 'water', meaning 'pertaining to water' that had been largely specialized in meaning to 'otter' even in late PIE times.

The otter is ubiquitous over Eurasia (Atlantic to the Pacific) although it is not recorded for large areas of Kazakhstan and lowland Central Asia. It is known, however, in Iran, India, and Chinese Turkestan. Such a distribution suggests that it would have certainly been known to the earliest Indo-Europeans. Archaeologically, it is variably attested according to region. In northern Europe it is well represented on both Mesolithic and Neolithic sites and the numbers on some Baltic sites suggests specific hunting of the animal.

See also **Mammals**. [D.Q.A., J.P.M.]

OUT

h₁eĝhs 'out (of)'. [*IEW* 292–293 (**eĝhs*); Wat 16 (**eghs*); GI 104; BK 374 (**igʸ-/*egʸ-*)]. OIr *ess-* 'out', Wels *eh-* 'out', Lat *ex* 'out (of)', OPrus *esse* 'out', Lith *iš* 'out of, from; by', Latv *iz* 'out', OCS *iz* 'out', Grk *ἐξ* 'from, out of'. At least old in the west and center of the IE world.

See also **Adpreps**. [D.Q.A.]

OVER

***h₄upér(i)** 'over'. [*IEW* 1105 (**upér*); Wat 72 (**uper*); GI 104]. OIr *for-* 'over', Wels *gor-* 'over', Lat *s-uper* 'on', ON *yfir* 'over', OE *ofer* 'over' (> NE *over*), OHG *ubir* 'over', Goth *ufar* 'over', Grk *ὑπέρ* 'over; beyond', Arm *i ver* 'onto', Av *upairi* 'over', OInd *upári* 'over'. Old in IE.

See also ADPREPS; UP. [D.Q.A.]

OWL

?*kău- 'howl; owl'. [*IEW* 536 (**kău-*); cf. Wat 27 (**kau-*)]. MWels *cuan* 'owl', Gaul (via Latin) *cavannus* 'owl', OHG *hūwo* 'owl'. This clearly onomatopoeic root is also distributed in verbal form in Baltic, Greek and Indic as the word for 'shriek'. This same root also provides terms for 'jackdaw' and 'gull'.

?*b(e)u- 'owl'. [*IEW* 97 (**b(e)u- ~ *bh(e)u-*); Wat 5 (**beu-*)]. Lat *būbō* 'owl', Bulg *buh* 'owl', Grk *βύας* 'owl', Arm *bu ~ buēč* 'owl', NPers *būm* 'owl'. Clearly onomatopoeic and carried further in Semitic languages such as Arabic *bumm*, Syrian *bava* or the Caucasus where we find Georgian *bu, buvi*, Chechen *buha*, and Agul *buhu-j*.

?*ulu- 'owl'. [*IEW* 1105 (**ul-*); Wat 72 (**ul-*)]. Late Lat *ulucus* 'owl', OInd *úlūka-* 'owl'.

All the terms are expectedly onomatopoeic and do not require a direct derivation from a PIE form.

See also BIRD CRY; BIRDS. [J.A.C.G.]

OWN

***seu̯os** 'own'. [*IEW* 882 (**seu̯e-*); Wat 67–68 (**s(w)e-*); GI 292]. Lat *suus* 'own', Osc *suveís* (gen. sg.) 'of one's own', OPrus *swais* 'own', Lith *sãvas* 'self', OCS *svojĭ* 'own', Alb *vetë* 'self', Grk *(ϝ)o* 'his', Av *xᵛa-* 'ownself', OPers *huva-* 'ownself', OInd *svá-* 'self'. This reflexive possessive pronoun is widely recorded. The word apparently could be applied to all persons in early IE but today that practice is limited to Balto-Slavic and Albanian whereas in the other stocks one can only employ it with reference to the third person. It has been suggested, on the basis of Latin and Vedic texts, that the original meaning was not 'one's own' but rather 'all that pertaining to the (joint/extended/communal) family', i.e., what was held in common among the family members in contrast to what was personal property. Hence a noun **sū-* 'joint family' has been proposed and an adjective **su̯e-*. Attempts have been made to etymologize a number of kinship terms that begin with a similar initial **su̯e-*, for example, Szemerényi explains **su̯ésōr* 'sister' as **su̯-* 'pertaining to the joint family' + **esōr* 'woman', i.e., 'woman of the joint (one's own) family'. This explanation might be defended on the grounds that one's sister was an agnate, a member of one's own lineage, but it becomes more problematic when one attempts to derive **su̯ékuro-* 'father-in-law' from **su̯e-* and **ḱóru* 'head, i.e., head of the joint family' since he would be an affine and most certainly not a members of ego's own lineage. Szemerényi has attempted to avoid this problem by arguing that the word was created and employed from the perspective of the wife but there are sound reasons to doubt that this was the situation in PIE.

See also FATHER-IN-LAW; PRONOUNS. [M.E.H.]

Further Reading

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P

PAIN

*seh$_4$i- '± be angry at, afflict'. [*IEW* 877 (*sāi-); Wat 55 (*sai-); Buck 16.31]. OIr *saeth* 'pain, sickness', Wels *hoed* 'pain', Lat *saevus* 'fierce', ON *sārr* 'wounded', OE *sār* 'bodily pain, wound, sore' (> NE *sore*), OHG *sār* 'sore', Goth *sair* 'pain', Latv *sīvs* (< *saiwo-) 'sharp, biting', Grk *αἱμωδία* 'kind of tooth-ache', Hit *sā(i)-* 'be angry at, resent', *sāwar* 'anger, ill-will', TochB *saiwe* 'itch'. This would appear to be a word of high antiquity in IE. Only in certain parts of the IE world, however, has it taken on meanings related to health.

*h$_a$éghleh$_a$- 'affliction'. [*IEW* 8 (*agh-(lo-)); Wat 1 (*ag-es-); BK 302 (*ħag^y-/*ħəg^y-)]. OE *eg(e)le* 'disagreeable', Goth *aglō* 'affliction', Av *aγrā* 'type of a disease', OInd *ághrā* 'affliction'. Attested only at the extremities of the IE world, with its original underlying verb nowhere to be found, this word is likely to be old in IE.

*h$_a$énĝhes- '± suffering, grief, fear'. [*IEW* 42–43 (*anĝhos-); Wat 2 (*angh-)]. Lat *angor* 'fear', ON *angr* 'grief, anger' (borrowed > NE *anger*), OHG *angust* 'fear', Av *ązah-* 'oppression', OInd *áṃhas-* 'fear'. From *h$_a$enĝh- 'narrow, constrict'. Fairly widely attested, almost certainly a late PIE word.

*h$_1$éduol (gen. *h$_1$edunós) 'pain; evil'. [cf. *IEW* 287–289 (*ed-); BK 418 (*at'-/*ət'-)]. From the stem in *-l-: Luv *ādduwal-* 'evil' (noun), *ādduwali-* 'evil' (adj.), Hit *idālu-* 'evil' (adj.), TochB *yolo* (< *h$_1$eduol-ōn-) 'evil' (noun or adj.). From the stem in *-n-: OIr *idu* 'pains, birthpangs', Grk *ὀδύνη* 'pain, suffering', Arm *erkn* 'birthpangs, great pain'. Usually taken as being from *h$_1$ed- 'eat', as that which eats at one although it has also been suggested that it may derive from a separate root 'to bite', i.e., a 'biting' pain. There is some evidence in the Celtic and Armenian forms that even in the late PIE period, the plural of this form specifically indicated 'birthpangs'. Although largely eastern in its distribution, it is surely old in IE.

*k^{w}ent(h)- 'suffer'. [*IEW* 641 (*k^{u}enth-); Wat 34 (*k^{w}ent(h)-); Buck 16.31]. OIr *cēsaid* (< *k^w(e)nt-s-eh$_a$-) 'suffers', Lith *kenčiù* 'suffer', Latv *ciešu* (< *k^{w}ent-i̯e/o-) 'suffer', Grk *πάσχω* (< *k^{w}n̥th-sk̂e/o-) 'suffer', *πένθος* 'grief, sorrow, mourning for the dead'. Sparsely attested but the attestations are geographically widespread. A word at least of the west and center of the IE world.

*péh$_1$mn̥ 'misfortune, suffering'. [*IEW* 792–793 (*pē-mn̥)]. Grk *πῆμα* 'misfortune, suffering, misery', Av *pāman-* 'dryness, scab', OInd *pāmán-* 'skin disease', probably *pāpmán-* 'misfortune, suffering' (if crossed with *pāpá-* 'bad, evil'). Not strongly attested, but probably moderately old as the underlying verb is nowhere attested. A word of the IE southeast.

*k$^{(w)}$leik̂- 'suffer'. [Mayrhofer I:419]. Lith *klišes* 'crab-claw', Rus *klestítī* 'press', Parthian Sogdian *nxrys-* 'blame, reproach' (< *ni-xraisa-), OInd *kliśyate* 'suffers, is tormented', *kleśa-* 'suffering, pain, torment', TochA *kleps-* '± languish, shrivel, wither', TochB *klaiks-* '± languish, shrivel, wither'. A word of the IE east.

*h$_a$em(h$_x$)-ī-u̯eh$_a$- 'suffering'. [*IEW* 778 (*omə-)]. Grk *ἀνίᾱ* (< *anīwā, dissimilated from *amīwā) 'grief, sorrow, trouble', OInd *ámīvā* 'suffering, sickness'. Cf. ON *ama* 'bother, pester, molest', NIce *ami* 'anguish, torment, vexation', OInd *ámīti* 'torments, presses', TochB *amiśkäññe* 'unpleasant', *amiśke* 'bad-tempered, despondent'. The specific form is only attested as an "easternism" in IE. The underlying verb, however, is also to be found in Germanic and another derivative in Tocharian. At least late PIE in date.

?*(p)k̂órmos '± grief, shame' (and perhaps *(p)k̂ormós 'causing grief, shame'). [*IEW* 615 (*k̂ormo-); Wat 32

(*kormo-); Buck 11.28; BK 206 (*t̰ł$[^h]$ar-/*t̰ł$[^h]$ər-)]. ON *harmr* 'sorrow', OE *hearm* 'harm, grief; insult' (> NE *harm*), OHG *har(a)m* 'sorrow', OCS *sramŭ* 'shame', Rus *sórom* 'shame', Av *fšarəma-* 'shame'. Cf. the underlying verb only in Iranian, e.g., Khot *kṣär-* (< *fšar-) 'be ashamed'. It is not certain that all these forms belong together. However, the exact semantic equation between Iranian and Slavic and the apparently exact phonological relationship between Slavic and Germanic seem persuasive. If related, surely of at least late PIE status.

See also Eat and Drink; Medicine; Narrow; Sick. [D.Q.A.]

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PAINT

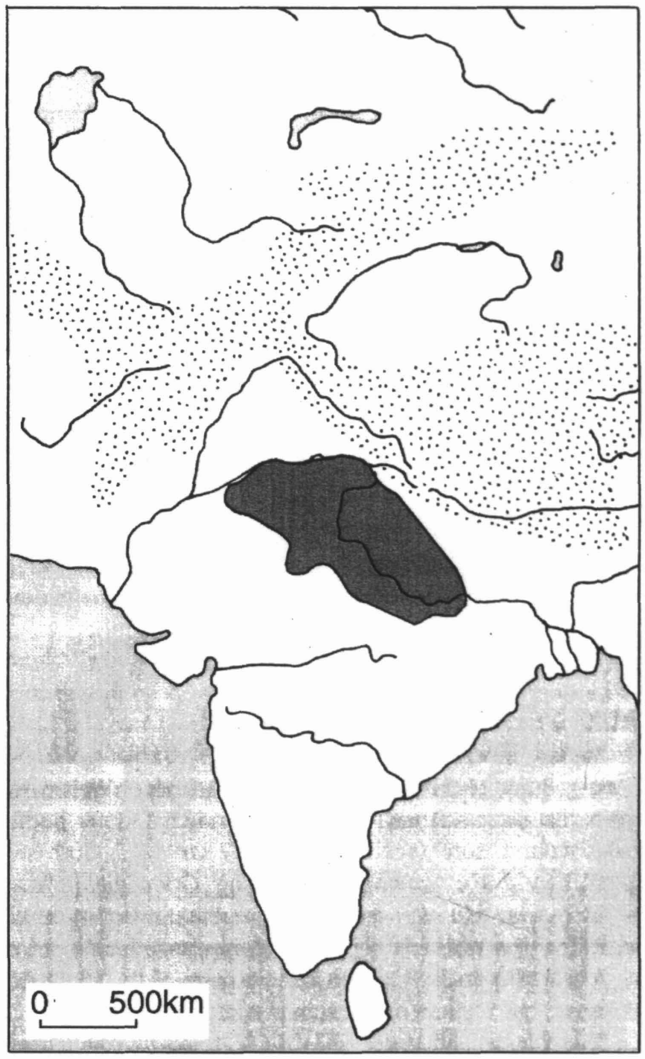
***peiḱ-** 'paint, mark'. [*IEW* 794–795 (*peig- ~ *peik-); Wat 47 (*peig- ~ *peik-); GI 543 (*p^hik^h-)]. Lat *pingō* 'paint, color', ON *fā* 'colored', *fā runar* 'carve runes', OE *fāh* ~ *fāg* 'colored', OHG *feh* 'colored', OPrus *peisāi* 'write', Lith *piẽšas* 'freckle', *piẽšti* 'draw, write', OCS *pĭstrŭ* 'variegated', *pĭsŭ* 'dog' (< *'spotted'), *pisati* 'paint, color', Grk *ποικίλος* 'colored', Av *paēsa-* 'color', *fra-pixšta-* 'painted', OInd *péśa-* 'form, color', *piśáṅga-* 'reddish', *piṃśati* 'colors, paints', TochAB *pik-* 'write, paint'. This root, which is clearly PIE in distribution, has been held to be separate from its homophonous twin: *peiḱ- 'be hostile; be dead' seen in OE *fǣge* 'fated', Lith *paĩkas* 'silent' (< ?*'dead'), OInd *píśuna-* 'evil-intentioned'. It is possible, however, that the two semantic sets were related through the painting of either warriors or the dead. The paint in this case would have been ocher, widely attested in burials and employed as the red material for writing and coloring runes.

See also Color; Textile Preparation. [M.E.H.]

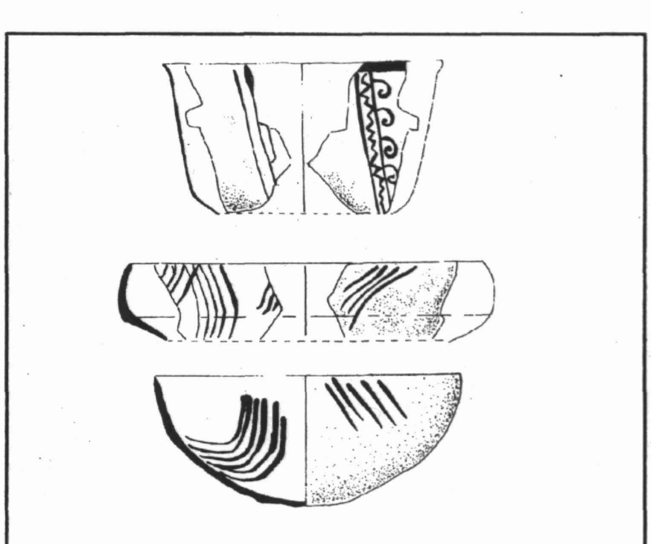
PAINTED GREY WARE CULTURE

The Painted Grey Ware culture of India has been regarded by some as the archaeological reflection of early Indo-Aryan culture in the north of the subcontinent. The culture is distributed from the eastern Punjab to the Ganges and flourished within the period *c* 1200–400 BC. This is the period that marks the transition from a primarily copper-using to iron-using culture. It takes its name from its fine painted gray pottery which is decorated in black or red. Settlements tend to be small villages consisting of relatively insubstantial wattle and daub or mud-brick structures which stand in contrast to the baked-brick urbanism of the preceding Harappan culture. The domestic horse and iron implements (arrowheads, spearheads, sickles, axes, nails) are also known from Painted Grey Ware sites. The economy included domestic pig, cattle (which were consumed at this period), sheep, and buffalo, and rice was one of the main cereals. Deer were hunted and the ivory of elephants was exploited.

The association of the Painted Grey Ware culture with the



Painted Grey Ware a. Distribution of the Painted Grey Ware culture.



Painted Grey Ware b. Painted grey ware from Hastinapura.

Indo-Aryans was primarily suggested because the location of its sites appeared to correlate with place names mentioned in the Indian epic *Mahābhārata*. Further evidence was adduced from layers of flooding which were tied to the descriptions of a flood in early Indic tradition. The thesis that the Painted Grey Ware reflects an Indo-Aryan invasion has generally floundered, however, because no one has been able to derive it from outside of India to meet the requirements of an external invasion (attempts to link it with ceramics from the Swāt Valley have been dismissed as the shapes of the vessels between the two cultures show no specific resemblances). Consequently, the Painted Grey Ware culture is now generally seen as an indigenous culture of India whose origins lay within its own area of dispersal. The assumption that the culture was indigenous in origin does not mean that Indo-Aryans were not the ethno-linguistic group behind this culture but their linguistic identity cannot be confirmed.

See also HARAPPAN CULTURE; INDO-IRANIAN LANGUAGES. [J.P.M.]

Further Reading

Tripathi, V. (1976) *The Painted Grey Ware: An Iron Age Culture of Northern India*. Delhi, Concept.

PALE *see* WHITE

PALM OF HAND *see* HAND

PANTHER

??*perd- 'panther, lion'. [GI 425]. Grk *πάρδαλις* 'panther, leopard', NPers *palang* 'panther, leopard', Pashto *pṛāng* 'panther, leopard', Sogd *pwrδnk* 'panther, leopard', OInd *pṛ́dāku-* 'panther, leopard' (this last word is only attested in medieval *lexica* and is almost surely a borrowing from some Iranian source). Since the panther is not native to Greece, it is overwhelmingly likely that the Greek word is a borrowing, either from some Iranian source or from some source that was also the source of the Iranian and, ultimately, Indian words. Almost surely not PIE.

??*per-k̂/s- 'panther, leopard'. [cf. *IEW* 820–821 (**perk̂-*), 823 (**pers-*); GI 425]. Hit *pars(a)na-* 'panther, leopard', NPers *pārs* ~ *fārs* 'panther, leopard', Sarikoli *pis* 'panther, leopard'. Apparently two different and independent creations from **per-* 'spot ~ spotted'. Alternatively, the Hittite form may be related to Hattic *ha-prassun* 'of the leopard'. Either way there are no grounds for assuming PIE date for this word.

See also CAT; LEOPARD; LION; MAMMALS. [D.Q.A.]

PASTORAL GOD

****péh₂usōn*** (gen. ****puh₂snós***) 'pastoral god'. [*IEW* 790 (**pāuson*); BK 52 (**p[h]ah-/*p[h]əh-*)]. Grk *Πᾶν* (gen. *Πᾶνός*) (Greek divinity who is protector of flocks), OInd *Pūṣá-* (Vedic divinity who is protector of flocks). The general Greek word is originally only Arcadian, hence the unexpected *-ā-* in Attic; Arcadian also shows an uncontracted form in the dative *Παονι*. Also belonging here perhaps are the Gaulish or Venetic personal name *Puso* and the Messapic proper name *Pausō*. The Greek-Old Indic equation has been doubted by some, as it requires the assumption of a metathesis of **-h₂u-* to **-uh₂-*, a phonological change accepted by many but not all Indo-Europeanists. By those who accept the equation it has been plausibly suggested that we reconstruct **péh₂usōn* and connect this word with **peh₂-* 'protect, feed (cattle)'. A word of the IE southeast.

At home in Arcadia, Pān is half goatish in shape; his main function is to make the (caprine) flocks fertile and he is worshipped in that capacity. The Old Indic Pūṣan, irrespective of lexical identity, shows remarkable correspondences with Pān: his chariot is pulled by goats, the sacred animal of Pān; he is also a pastoral god, but he differs from Pān by his affinities with the sun (e.g., Sūryā, the daughter of the sun, is supposed to be his wife, and as the best charioteer, he is claimed to have driven down the golden wheel of the sun); in addition, like Mercury, he presides over the ways and leads the souls of the dead to the otherworld. Offerings are made to him to find lost objects.

See also DEATH. [E.C.P.]

Further Readings

Bader, F. (1989) Pan. *Revue de Philology* 63, 7–46.
Rodríguez, M. S. (1995) *Πᾶν* = *Pūṣá* reexamined. *JIES* 23, 209–211.

PASTURE *see* FIELD

PAW see HAND

PEA

?*h₁eregʷo- 'pea (*Pisum sativum*)'. [*IEW* 335 (**ereg̯ᵘ(h)o-*); Buck 5.67]. Lat *ervum* 'pulse, vetch', OHG *araweiz* 'pea', Grk *ὄροβος* 'pea'. The Lat *-v-* matches Grk *-β-* (< **-gʷ-*) or Gmc *-w-* but not both. Probably a borrowing in all three stocks from a Near Eastern or Mediterranean source.

The pea (*Pisum sativum*), today ranked as the world's second most important pulse, is an important source of protein and it has been prominent in botanical remains from the early Neolithic onwards. In wild form it was found confined to the Near East and Mediterranean where it was known in Turkey, Greece and southern Italy. The pea was known in Near Eastern sites regularly mixed with wheat and barley from about 7500 BC onwards. Initially, it was probably there still in a wild form although evidence of domestic peas, seen in their smooth seed-coats, is already apparent in Anatolian sites from the sixth millennium BC onwards and they are similarly found among the carbonized botanical remains from early Neolithic Greece, Bulgaria and Serbia. They seem to have been part of the basic "package" of Neolithic domesticated plants carried into the rest of Europe and appear in the Linear Ware culture of the fifth millennium BC and later. Evidence for the pea is known in Moldova and the Ukraine from the beginnings of the Neolithic onwards, including the Bug-Dniester, Tripolye

and Sredny Stog cultures and it is also known from Neolithic sites of the Caucasus. The pea is recorded from Turkmenistan by the fourth millennium BC and India from about the third millennium BC. In general, it is difficult to imagine that the Proto-Indo-Europeans, no matter where situated, did not know the domestic pea at an early date which makes our inability to reconstruct in a solid way any PIE word for it all the more striking.

See also AGRICULTURE; CHICK-PEA; FOOD; PLANTS; VEGETABLES. [D.Q.A., J.P.M.]

PEAK

***u̯ers-** 'peak'. [*IEW* 1151–1152 (**u̯ers-*); Wat 76 (**wer-*); GI 110; Buck 12.33]. OIr *ferr* 'better' (< 'higher'), Lat *verrūca* (< **varsu-ca*) 'varus, pimple', OE *wearr* 'sill', OHG *werna* 'sty', *werra* 'varicose vein', OPrus *warsus* 'lip', Lith *viršùs* 'highest point', Latv *vìrsus* 'higher', OCS *vrĭchŭ* 'peak', Rus *verkh* 'peak', Grk ἕρμα (< **ϝερσμα* < **u̯ers-mn̥*) 'point, top', OInd *várṣman-* 'height, peak'. Widespread distribution indicates PIE status.

See also HIGH; HILL; SKIN DISEASE. [A.D.V.]

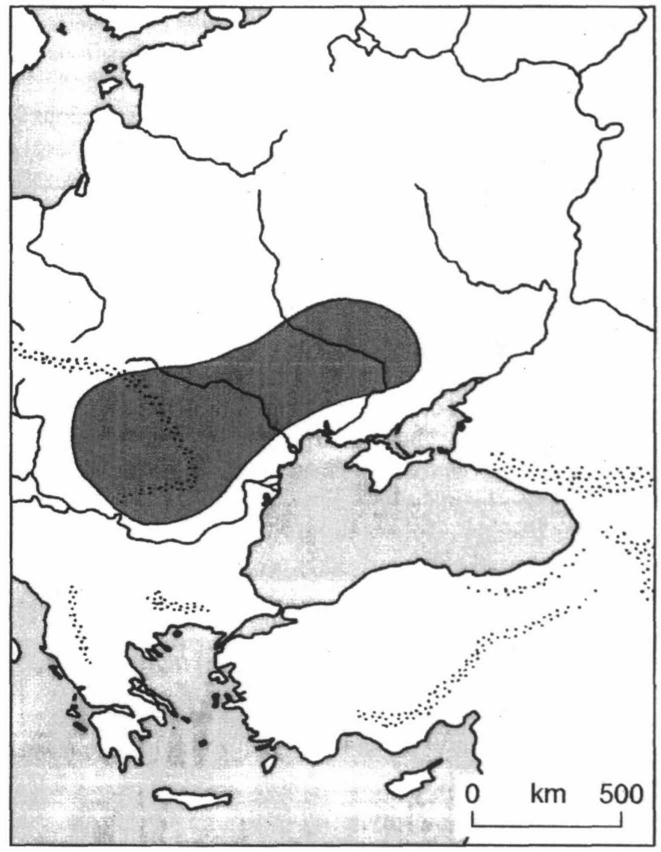
PEG *see* WEDGE

PEN *see* FENCE

PENKOV CULTURE

Part of the Prague-Penkov-Kolochin complex of the fifth-seventh centuries AD. The Penkov culture, occupying the area from the lower Danube to the northern Donets, has yielded some three-hundred sites in the Ukraine. These consist of small settlements of five to seven small semi-subterranean houses, distributed about 3 to 5 km from one another; burials were generally cremation, occasionally inhumation. The culture also incorporated mobile steppe elements from north of the Black Sea and some have argued that the Penkov culture possessed an Iranian-speaking substrate which was assimilated to Slavic. The Penkov culture has been associated with the southern movement of the early Slavs, particularly the tribe identified in historical sources as the Antes.

See also KOLOCHIN CULTURE; PRAGUE CULTURE; SLAVIC LANGUAGES. [J.P.M.]



Penkov Distribution of the Penkov culture.

PEOPLE

***déh$_a$mos** '(segment of) people'. [*IEW* 176 (**dā-mo-s*); Wat 10 (**dā-mo-*); Buck 19.21; BK 130 (**t'ah-/*t'əh-*)]. OIr *dām* 'troop, company, retinue', OWels *dauu* 'client', Grk δῆμος 'people'. The only term here to indicate 'people' is the Greek word which originally designated a portion of a territory but even by the time of the *Iliad*, it was employed to designate the population of a territory and that topographical meaning was preserved in Athenian administrative terminology where δῆμος indicates a tribal division. Otherwise in Greek it was used to distinguish between rural populations and the power elites, i.e., δυνατοί 'the powerful (ones)' or εὐδαίμονες 'the prosperous (ones)'. The underlying meaning would appear to indicate a 'part' and it is presumed to be built on **deh$_a$-* 'cut, divide' (cf. Grk δαίομαι 'divide', OInd *dā́ti* 'cuts', *dīti-* 'reparation', *dáyati* 'shares out') with a *-mo-* derivational suffix. At least a word of the west and center of the Indo-European world.

***h$_1$leudheros** 'people, freemen'. [*IEW* 684–685 (**leudhero-*); Wat 37 (**leudh-ero-*); GI 398 (**leud^{h}ero-*); Buck 19.44]. OE *lēod* 'people, nation', OHG *liut* 'people, nation', MLat (< Burgundian) *leudis* 'freeman', Lith *liáudis* 'people', Latv *ļàudis* 'people', OCS (pl.) *ljudĭje* (< **h$_1$leudheies*) 'people', *ljudinŭ* 'freeman', Khowar *roi* 'people, man, person'. Germanic and Slavic also show **h$_1$leudhos* 'man; freeman' in OE *lēod* 'man; wergeld for a man', *gelēod* 'fellow countryman, compatriot', OHG *liut* 'human being', Rus *ljud* 'people'. Another derivative **h$_1$léudheros* 'free' is found in Lat *līber* 'free' and Grk ἐλεύθερος 'free'. The notion of 'free' derives from 'belonging to one's own people' as opposed to slaves who are captured from other groups. It is significant that **h$_1$léudheros* is formed with the suffix **-ero-* which is used to contrast two things or concepts (e.g., *inner* vs. *outer*). In this case we have those with membership in the "in group" contrasted with those outside of the group. Finally, we should note that it has been both affirmed and denied that Alb *vëlla* 'brother' derives from **(s)u̯e-h$_1$loudho-* '± one's own person'.

From *$h_1$leudh-* 'grow, increase'.

The semantic development envisaged here begins with the notion of growth, of increase in size, which seems to have been a fertile source of words for 'people' in PIE (compare the next two entries). In this case we perhaps can see a specialization in meaning to indicate the progeny of the ancestral founders of the tribe, endowed by birth with the full rights inherent in the community (e.g., that that person is 'free'). In a slightly different semantic vein, the notion of growth, i.e., of the increasing stature of plants or of human beings, appears in a different set of derivatives in Latin and Tocharian: Lat *līberī* 'children' (i.e., the rising generation), *Līber* 'deity presiding over agriculture', *Līberālia* 'festival of Līber (March 17th), at which youths received the *toga virilis*', Venetic *Louzera* deity of vegetation growth and viticulture, TochA *lyutār* (< *$h_1$léudhōr*) 'more' (adverbial use of a noun meaning '± increase'), *lyutāri* (pl.) '± overseers'.

pleh$_1$dhu̯éh$_1$s (gen. ***pleh$_1$dhuh$_1$ós***) '(the mass of) people'. [*IEW* 799 (*plē-to-*); Wat 48 (*plē-dhw-*); Buck 19.21]. Lat *plēbēs* (~ *plēbis* ~ *plēbs*) 'plebeians (as opposed to the patricians, etc.), the common people', Grk *πληθῦς* 'throng, crowd; (common) people'. The term derives from **pleh$_1$-* 'fill' (cf. Lat *plēnus* 'full', Grk *πίμπλημι* 'fills', OInd *pṛṇáti* 'fills, satiates') and like the Germanic forms ON *folk* 'people', OE *folc* 'people' (> NE *folk*), etc., is derived from the same root (< **pl̥h$_1$-go-*) and has the connotation of 'heap, mass'. Distribution suggests late IE status.

teutéh$_a$- 'the people (?under arms)'. [*IEW* 1084–1085 (*teutā*); Wat 71 (*teutā-*); GI 652 (**t^{h}eu-t^h-*); Buck19.22]. OIr *tūath* 'a people, nation; (common) people as opposed to king or clergy', Wels *tud* 'country', Osc *touto* 'community', Umb (acc.) *totam* 'citizenry', ON *þjōð* 'folk', *þȳða* 'explain, translate', OE *þēod* 'folk', *þīedan* 'explain, translate', *þēodisc* 'belonging to the people; vernacular speech', OHG *diot* 'people, heathen', *diuten* 'explain, translate', *diutisc* 'belonging to the people' (> NHG *deutsch*), Goth *þiuda* 'folk', *þiudiskō* 'like the heathen' (in Germanic we also have a **teut-ono-*) 'leader of the **teutéh$_a$-* in ON *þjōðann* 'prince, king', OE *þēoden* 'king, lord; God', Goth *þiudans* 'king'), OPrus *tauto* 'country', Lith *tautà* 'people', Latv *tàuta* 'people', Illyrian *Teuta* (tribal name), Messapic *Θeotoria* (personal name), Thracian *Tautomedes* (personal name), Grk (gen.) *Τευταμίδāο* (personal name of a Pelasgian on the side of the Trojans [*Iliad* 2.843]) and more certainly *Τευτίαπλος* (personal name). NPers *toda* 'heap; stack, rick; hill, tumulus' has also been included here but the semantic divergence (?'mass of people' > 'lump, mound') seems very large. Lat *tōtus* 'all, whole' may preserve the underlying adjective from which **teutéh$_a$-* is derived but the form (**tōtus* rather than the expected **tūtus*) is not well explained. Finally, it has been affirmed and denied in about equal measure that Hit *tuzzi-* 'army' is related as the descendant of a parallel derivative **teutih$_a$-* '± that related to the people' ('the people's army' so to speak). It is generally supposed that **teutéh$_a$-* is a derivative of **teu(h$_a$)-* 'swell, be strong', either as the 'strength of the community' (or even 'people under arms' if we take the Hittite word to be related) or the 'mass (of the people)'. The presence of the laryngeal, however, renders this derivation suspect and it has also been proposed that **teutéh$_a$-* derives from **teu-* 'look on with favor' which frequently includes the concept of 'serve' or 'protect' (e.g., Lat *tueor* 'observe, protect', *tūtus* 'secure'), hence a collective indicating the 'service' of a king. By itself, **teutéh$_a$-* is a word of the west and center of the IE world and at least in Germanic the word and its derivatives have taken on clearly ethnic, and even linguistic, dimensions. If Hit *tuzzi-* is related, then we have evidence for something of PIE date.

In early Ireland, the *tūath* is inextricably associated with the concept of the 'king' (*niba tūath tūath . . . cen rīg* 'a *tūath* is not a *tūath* without a king') and this concept may extend back at least into Proto-Celtic, cf. Wels *Tudur* (< **Teuto-rīks* 'teuto-king'), Gaul *Toutio-rix* '"Tribal"-king'. Although Germanic lacks a reflex of **h$_3$rēĝs* 'king', it reveals a similar construction in ON *þjōð-konungr* and OE *þēod-cyning* 'people-king', and it is suspected that the extended form built on **teutéh$_a$-* (Gmc **þeudanaz*: ON *þjōðann* 'prince, king', OE *þēoden* 'king, lord; God', Goth *þiudans* 'king') had replaced **h$_3$rēĝs*. Kim McCone suggests that the **teutéh$_a$-* was a PIE institution, ruled by a king (**h$_3$rēĝs*), and comprised of the adults (both those fit for military duty and the older members of society) but not the **kori̯os*, the war-band of the younger age set.

See also AGE SET; ARMY; COMPANION; FREEMAN; FRIEND; LEADER; SOCIAL ORGANIZATION; SWELL. [E.C.P., J.P.M.]

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PERCEIVE

u̯er- 'perceive, give attention to'. [*IEW* 1164 (**u̯er-*); Wat 77 (**wer-*); GI 709 (**wer-*); BK 480 (**war-/*wər-*)]. OIr *cō(a)ir* (*DIL cōir*) (< *< **ko(m)-u̯er-o-*) 'appropriate, correct', Lat *vereor* 'honor, fear', ON *varr* 'cautious, wary', *vari* 'care, attention', OE *wær* 'cautious, wary' (> NE *ware, wary*), *waru* 'care, attention', OHG *gi-war* 'careful, cautious', *wara* 'care, attention', Goth *wars* 'careful, sober', Latv *vērt* 'look, gaze, notice', Grk *ἐπὶ ὄρονται* 'they supervise', *οὖρος* (< **u̯óru̯o-*) 'guard', (Hesychius) *ὄρει* 'guards', *ὁράω* 'see', *ὤρα* 'care', Hit *werite* (< **u̯eri dheh$_1$-* 'put one's attention'?) 'fear', TochAB *wär-* 'smell'. Extremely widespread and certainly old in IE. In Italic and Anatolian this word appears in the specialized sense of "(ritual) fear"; a rather similar social sense is seen in Celtic. Such a specialization of meaning may well be old in PIE.

u̯er-b(h)- 'oversee, protect'. [cf. *IEW* 1164 (**u̯er-*); VW 593–594; BK 480 (**war-/*wər-*)]. OPrus *warbo* 'protects', TochB *yärp-* (< **u̯erb(h)-*) 'oversee, observe, take care of'. An enlargement of **u̯er-*. The apparent agreement of Baltic and Tocharian would seem to guarantee at least late PIE status for this word.

***h₄eu-** 'perceive'. [*IEW* 78 (**au̯-*); Wat 4 (**au-*); GI 688; BK 458 (**haw-/*həw-*)]. OCS *aviti* 'show, reveal', *umŭ* 'intellect, intelligence', Hit *ūhhi* (< **h₄eu-h₂e-i*) 'see', OInd *ud-avati* ~ *pra-avati* 'observes, notices', *uvé* 'I see'; from **h₄eu̯is-* we find Lat *audiō* (< **h₂eu̯is-dh-i̯e/o-*) 'hear', Grk **αἰσθάνομαι** 'perceive'. Also reasonably widespread and old in IE. Possibly related, as with GI, to the PIE word for 'ear'.

***sent-** 'perceive, think'. [*IEW* 908 (**sent-*); cf. Wat 58 (**sent-*); BK 187 (**san-/*sən-*)]. Lat *sentiō* 'feel', *sēnsus* 'feeling, meaning', OHG *sin* (< **sentno-*) 'meaning', *sinnan* 'strive, desire', Lith *sentéti* 'think', OCS *sęštĭ* 'wise'. A word of the west and center of the IE world.

***ghou-** 'perceive, pay heed to' (pres. ***ghou̯-eh₁-**). [*IEW* 453 (**ghou̯(ē)-*); Wat 23 (**ghow-ē-*); BK 238 (**guw-/ *gow-*)]. Lat *faveō* 'favor', ON *gā* (< **gau̯ō*) 'pay attention to', OCS *govějǫ* 'honor', Rus *govétĭ* 'fast', Arm *govem* 'praise'. Cf. the Germanic denominative verbs: ON *geyma* 'heed, watch', OE *gīeman* 'heed, watch', OHG *goum(j)an* 'foresee, care for', Goth *gaumjan* 'see, observe', built on the derived noun **ghou-mo-* seen in ON *gaumr* 'attention, care'. A word of the west and center of the IE world.

***kʷei-** 'perceive'. [*IEW* 636–637 (**ku̯ei-(t-)*)]. Grk **ἀτίζω** 'do not pay attention', OInd *cinóti* ~ *cikéti* 'perceives', *cit* intellect'; **kʷeis-* in OIr *ad-cī* (< *-*kʷiset*) 'sees'; **kʷeit-* in Lith *skaitaũ* 'count, read', Latv *skàitît* 'count, recite prayers', OCS *čĭtǫ* 'count, reckon, read something written', OInd *cétati* ~ *cíketati* 'pays attention to'. Though attested without further enlargement only in Old Indic, the presence of enlarged variants in Celtic and Baltic would seem to assure the PIE status of this root.

***keuh₁-** 'perceive' (pres. ***kouh₁éi̯e/o-**). [*IEW* 587–589 (**keu-*); Wat 30 (**keu-*); GI 734–735 (**kʰe/ou-*)]. Lat *caveō* 'take heed', OE *hāwian* (< **kēu̯eh₂-i̯e/o-*) 'look at', OCS *čujǫ* 'note', *čudo* 'wonder', Grk **κοέω** 'note', **κῦδος** 'glory', Lydian *kawe-* (< **kouh₁éi* 'seer') 'priest', Av *kavā* (< **kouh₁éi*) 'seer', OInd *kaví-* 'wise, seer', *ākúvate* 'intends to', *ākū́tam* 'intention'; we find a variant form **keus-* in: Lat *custōs* 'watchman', ON *heyra* 'hear', OE *hīeran* 'hear' (> NE *hear*), OHG *hōren* 'hear', Goth *hausjan* 'hear' (Gmc < **kous-i̯e/o-*), Rus (dial.) *čúkhatĭ* (< **keus-eh₂-*) 'perceive', Grk **ἀκούω** (< **sm̥-kous-i̯e/o-*) 'hear', (Gortyn) **ἀκεύω** (< **sm̥-keus-i̯e/o-*) 'hear'. We find the variant **skeu(h₁)-* in OE *scēawian* 'show' (> NE *show*), *scīene* 'beautiful' (> NE *sheen*), OHG *scouwōn* 'show', *scōni* 'beautiful', Goth *skauns* 'beautiful', Arm *c'uc'anem* (< **skouske/o-*) 'show', MPers *škōh* 'splendor, majesty'. Widespread and old in IE.

See also EAR; FAVOR; FEEL; HEAR; MAGIC; PRIEST; SEE; SEEK; TASTE; WATCH. [D.Q.A.]

PERCH

?*h₂ekū- 'perch'. [*IEW* 18–19 (**ak-*); cf. Wat 1 (**ak-*); BK 398 (**ħuk[ʰ]-/*ħok[ʰ]-*)]. ON *ǫgr* 'sea-bass (*Perca marina*)' (cf. Danish *aborre* 'perch [*Perca fluviatalis*]'), Norw *abbor* 'perch', Swed *aborre* 'perch', all < **agh-borre* where *-borre* as if < **bhr̥so-on-* 'having a point' (because of the perch's spiny fins) and similar to **bhorso-* seen in OHG *bersich* 'perch', NHG *barsch* 'perch', OE *bæ(r)s* 'perch' (> NE *bass*), MHG *ag* ~ *egle* 'perch (*Perca fluviatalis*)', Lith *ešerỹs* ~ *ašerỹs* 'perch', Latv *asar(i)s* ~ *aseris* 'perch'. Derived from **h₂ek-* 'sharp' because of the perch's spiny fins (as also with the case of 'sturgeon'). However, there is no reason that the Baltic and Germanic words could not be independent creations. Of doubtful IE status. Old Norse also shows a form *augr* beside *ǫgr*. The former was created by crossing the latter with *auga* 'eye' because of the perch's large, projecting eyes. So also is Rus *ókunĭ* 'perch' a derivative of *óko* 'eye'.

The perch is found in Europe from the Atlantic to the steppe regions where it is occasionally recovered from prehistoric sites; its southern limit is marked by the Mediterranean.

See also FISH; SHARP; STURGEON. [D.Q.A.]

PERSUADE

***bheidh-** 'persuade, compel, confide'. [*IEW* 117 (**bheidh-*); Wat 6 (**bheidh-*); GI 23 (**beidʰ-*); Buck 17.15]. Perhaps OIr *bibdu* 'guilty' (if < **bhi-bhidh-u̯ōts*), Lat *fīdō* 'trust', *fidēs* 'confidence', ON *beiða* 'urge', OE *bǣdan* 'urge', OHG *beit(t)en* 'urge', Goth *beidan* 'expect' (< *'have confidence in'), *baidjan* 'compel, exercise a moral constraint', OCS *bēda* 'necessity', *běditi* 'constrain', Alb *be* (< **bhoidheh₂-*) 'oath', Grk **πείθω** 'persuade', **πείθομαι** 'be persuaded, obey'. At least a word of the west and center of the IE world.

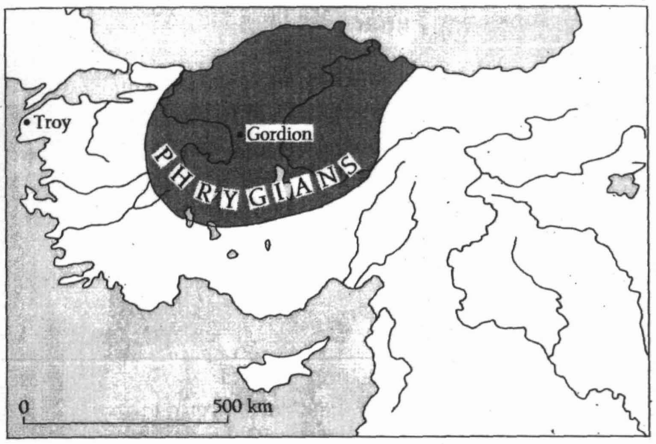
See also CONTEND. [D.Q.A.]

PHRYGIAN LANGUAGE

The Phrygians are numbered in the *Iliad* (2.862–863, etc.) as neighbors and allies of the Trojans. As a major power in Anatolia, they flourished during the ninth and eighth centuries BC and literary records continued until the first centuries AD. Their capital was at Gordion in central Anatolia and their most famous king, Midas of the golden touch fame, died in about 695 BC, when Phrygia was overrun by Kimmerians. The capital was rebuilt and survived as an important center through the later Hellenistic period beginning in 333 BC with Alexander the Great's famous visit. The extinction of the Phrygian language has been variously placed in the fifth century AD or perhaps as late as the seventh century.

Description

The evidence for Phrygian rests on inscriptions from two diverse periods. The earliest are the old Phrygian inscriptions, numbering on the order of 240, dating from about the eighth to the third centuries BC. The majority are found in what is presumed to have been the Phrygian-speaking territory of western Phrygia, eastern Bythinia and in the old Hittite capital of Hattusa and its environs. The longest of the old Phrygian inscriptions runs to 285 characters. New Phrygian inscriptions, written in the Greek script, date from the first century AD and number just over a hundred examples. In addition to these inscriptions are a handful of glosses, the



Phrygians The Phrygian capital of Gordion and the general area of Phrygian power.

most famous occurring in Herodotus (2.2) where an "experiment" to determine the most ancient language in the world—raising an infant in isolation, deprived of hearing human speech—was concluded when the child uttered the word *βεκος*, the Phrygian word for 'bread'. The Phrygian word for 'man', *zemelen*, preserved by Hesychius, is derived from PIE **dh(e)ĝhem-* 'earth'.

Phrygian, though poorly known, is clearly IE, e.g., Phryg *matar* (< **meh*$_1$*ter*) 'mother', Phryg (acc. pl.) *podas* (< **podōs*) 'feet'. If the second element in the personal name *Benagonos* is derived from **ĝenh*$_1$*-* 'be born', then Phrygian is presumably lumped with the centum rather than satəm languages (though the *z-* in *zemelen* might argue for a satəm development). One feature frequently remarked upon is that Phrygian (like Celtic, Italic, Anatolian and Tocharian) possesses a medio-passive in *-r*, e.g., *αδδακετορ* (< **dh(e)h*$_1$*-* 'put') and *αββερετορ* (< **bher-* 'carry'). While this feature has often been regarded as conservative, Phrygian also retains the augment (like Greek, Armenian, Indo-Iranian), e.g., *edaes* ~ *εδαες* (< **h*$_1$*e-dheh*$_1$*-*) 'he put'. The augment is usually seen as a late innovation restricted to the southeastern dialect group of Proto-Indo-European. Reduplication is employed in forming some perfects, e.g., *τετικμενος*.

The position of Phrygian with respect to the other IE languages is not entirely clear since it sends mixed signals. What is agreed is that it is not a language of the Anatolian type although it has borrowed some personal names from the previous and contemporary occupants of Anatolia, e.g., *Mamutas*, *Τουης*. Although it has often been asserted that Phrygian had a specially close relationship with Thracian (the so-called Thraco-Phrygian language), the fact that the Balkan language would appear to have been satəm provides little support and arguments for a close association tend to rest more on meager historical evidence than linguistic. Armenian has also been regarded as a possible close cousin, the origins of the Phrygians and Armenians often held to belong to the same general folk-movement through Anatolia yet here again the evidence is not particularly striking. The closest relationships are argued to be with Greek which also shares the relative pronoun **i̯os*, the suffix **-meno-*, the pronoun **auto-*, the use of the ending **-s* in the nominative singular masculine of *ā*-stems, and the augment (shared also by Armenian and Indo-Iranian). The relationship with Greek, as C. Brixhe and M. Lejeune observe, may also have been particularly close in the area of lexicon: the Phrygian inscription on the tomb of King Midas: *Midai lavagtaei vanaktei* 'to Midas (war-)leader and king' appears to contain two of the important Greek designations of the leader, found as early as Mycenaean *la-wa-ge-ta* and *wa-na-ka*. Brixhe has argued that rather than having been borrowed from the Greek, these terms may point to a common heritage.

Origins

The usual starting point for any discussion of Phrygian origins is the statement of Herodotus (7.73) that the Phrygians were originally called *Βρύγες* and inhabited the Balkans alongside the Macedonians. They migrated into Anatolia where they changed their name to *Φρύγες*. This explanation was repeated by a number of other writers of the ancient world, notably Strabo (7.3.2), who cites the testimony of the *Lydiaka* of Xanthus: the Phrygians came from Thrace after the Trojan War where they killed the king of Troy and then settled in their own lands, eastward of Troy. As Robert Drews has indicated, such testimony for a migration from Europe is contradicted by other sources such as Homer who would already have the Phrygians occupying the land east of the Trojans during the Trojan War (Homer also describes them as possessing fast horses [*Iliad* 3.184–189]). Herodotus' story of how they were proved to be the oldest of peoples in the world also suggests that there was widespread belief in their being autochthonous in their historical territory. Contradictory historical testimony such as this is too dubious to erect any theory upon.

The starting point for any serious discussion of Phrygian origins must lie with the evidence of the language itself. Since it is clear that Phrygian does not belong to the Anatolian stock, it is most unlikely that its origins can be placed either in its historical seat (the territory occupied by the Hittites) nor anywhere else in central or south-western Anatolia where we find clear evidence of the Anatolian languages. The evidence of Homer notwithstanding, the Phrygians cannot have been autochthonous from time immemorial but must have achieved their historical location in the face of the collapse of the Anatolians of central Anatolia. Given the inscriptional and historical evidence, they must also have reached central Anatolia by the ninth century BC. If one accepts that their greatest linguistic affinity was with Greek, then any explanation of Phrygian origins must also accommodate in some fashion a model of Greek origins.

Traditionally, the trip line for movements into Phrygia is

held to be Troy and proto-Phrygian migrations are commonly assigned to one of the levels of this multi-period site in northwest Anatolia. Robert Drews has argued that their earliest appearance might be set to the period marking the transition from Troy V to Troy VI, i.e., *c* 1700 BC, where there is a major cultural break which, among other things, marks the appearance of the domestic horse at this site. He suggests that both Phrygian and Greek dispersals were associated with the spread of chariot-aristocracies from eastern Anatolia who arrived first in northwest Anatolia by a sea route from the east. This model rests entirely on the assumption that chariot warfare was invented in eastern Anatolia/Armenia; as we also have solid archaeological evidence for spoked-wheeled vehicles in the Volga-Ural steppe region by *c* 2000 BC, the spread of chariots need not have issued from an east Anatolian center but might also have come across the Balkans providing both Phrygians and Greeks with a more proximate southeast European staging area.

Another possible event correlated by some with Phrygian origins is the transition to Troy VIIb at *c* 1200 BC which sees the appearance of coarse ware on the site. This transition coincides with the collapse of Hittite power and the widely held view that this was a period of massive folk-movement in the eastern Aegean. In this model Phrygian would have been carried from the Balkans into Anatolia at least some centuries after the proto-Greeks had already established themselves in Greece. Hittite references to a King Midas on their northern frontier have also been adduced to indicate that this intrusion coincides with the movements of early Phrygians. What remains problematic is linking the coarse ware (or knobbed ware) pottery from Troy at *c* 1200 BC with somewhat similar pottery recovered from the Phrygian city of Gordion of the ninth and eighth centuries. The similarities lie both in technique of manufacture and in ornament and can be traced back further to Thrace. Evidence for some form of symbiosis between the hand-made pottery traditions of possible immigrants and the wheel-made styles of the Anatolians at Gordion appears to be extremely meager but cannot be excluded. But most evidence for the material culture associated with the Phrygians appears to suggest local derivation and the presumption remains that wherever the Phrygians came from, they adopted most of the material culture of the local inhabitants of Anatolia. The main exception to this general adaption of the indigenous culture perhaps is their mode of burial since the Phrygians are renowned for their tumulus burials over wooden tombs with stone-capped roofs. This style would also appear to be intrusive to Anatolia and finds its closest parallels in the Balkans and north of the Black Sea. Some movement of peoples from the Balkans into Anatolia across the twelfth through ninth centuries then might both account for the Phrygian migrations into Anatolia and accommodate their linguistic relations with Greek (and perhaps Thracian).

See also INDO-EUROPEAN LANGUAGES. [J.P.M.]

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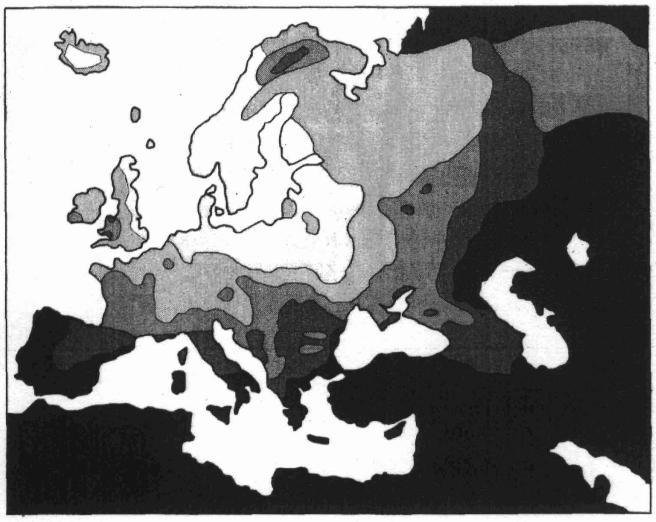
PHYSICAL ANTHROPOLOGY

Attempts to "reconstruct" the original physical type of the Proto-Indo-Europeans and trace their expansions through the evidence of human physical attributes began in the nineteenth century. The techniques involved have been various and have included deductions based on the physical appearance of modern or historically attested populations, the analysis of skeletal remains, in particular the skull, and genetics.

Physical Types

The initial (and transparently fallacious) approach involved the extension of an early physical description of one IE-speaking population to the earliest Indo-Europeans. Hence Tacitus's description of the Germans as blonds might be extended to the Proto-Indo-Europeans while the Indic "Law of Manu" was cited to prove that the earliest "Aryans" were brunettes. From the 1870s until the second World War, there was a persistent attempt to assemble overwhelming proof that the earliest Indo-Europeans were tall, blue-eyed blonds, approximating the "Nordic" physical type. Here the evidence was derived not from a single population but through sifting early classical descriptions of Greeks (140 out of 158 Greek deities and heroes were reputedly described as blond), Germans, Celts, Scythians, the upper classes of India, etc., which appeared to suggest that the earliest IE-speaking populations were either blond or at least ruled by blonds and recognized a common Nordic ideal physical type. Linguistics was even pressed into service as some attempted to derive the ethnic term 'Aryan' from *$*h_1el$- 'red, brown', hence the earliest Indo-Europeans were believed to have distinguished themselves as the 'fair-skinned' or 'fair-haired ones'. It is now clear that word for 'Aryan' is descended from PIE *$*h_aer$-, with an **-r-*, and is sharply distinguished from the color term *$*h_1el$-.

With the "original" physical type described, it remained only to determine its point of origin. The home of the Indo-European "race" was initially set in the Pripet marshes on the border of Belarus and the Ukraine but then swiftly shifted to



Physical Anthropology I Distribution of hair and eye pigmentation. Shading indicates relative clines from light to darker pigmentation.

northern Europe, particularly Germany and southern Scandinavia, which helped underlie later Nazi claims as to the "master race". Yet even in the late nineteenth century, the problem of confusing pigmentation with linguistic group was exposed as it was pointed out that populations speaking decidedly non-IE languages of northern Europe such as the Finns and Estonians, were every bit as blond as their Germanic neighbors. In general, the pigmentation or hair color is determined (originally) by climate (light skin may provide a selective advantage in producing vitamin D at high latitudes) and is distributed in gradients or clines from north to south in Eurasia. Such features need not have, and in attested populations do not have, any direct relationship to linguistic affinity.

Skeletal Remains

Fossil populations, recovered during archaeological excavations of cemeteries, were also seen as repositories of evidence about the origin and trail of the earliest Indo-Europeans. Initially, the link between human physical type and language followed a rather tortuous logic that began with light pigmentation which was to be associated with the Nordic physical type and then, by extension, to the skull proportions of the Nordics. Skulls were divided into three broad categories—dolichocephalic (long headed), brachycephalic (broad head) and mesocephalic (medium headed). The Nordics were predominantly long-headed and so this type, once referred to as *homo europaeus dolichocephalus flavus* (blond, long-headed European man) was sought in the archaeological record as the probable physical representation of the Proto-Indo-Europeans. As the brachycephalics tended to predominate in the Alps and the Carpathians, they were dismissed as remnant populations of originally non-IE speakers who had survived in mountain fastnesses. The full absurdity of such racial dogma was evident in the vitriolic works of Georges Vacher de Lapouge who maintained that "the ancestors of the (dolichocephalic) Aryans cultivated wheat when those of the brachycephalics were probably still living like monkeys". Racial geographers such as Griffith Taylor, although rightly recognizing that brachycephalism had actually increased through time (in Europe), developed the equally bizarre argument that an evolutionary hierarchy existed which placed the dolicocephalics at the bottom and acknowledged the higher evolutionary (and presumably intellectual) development of the brachycephalics, e.g., the Chinese.

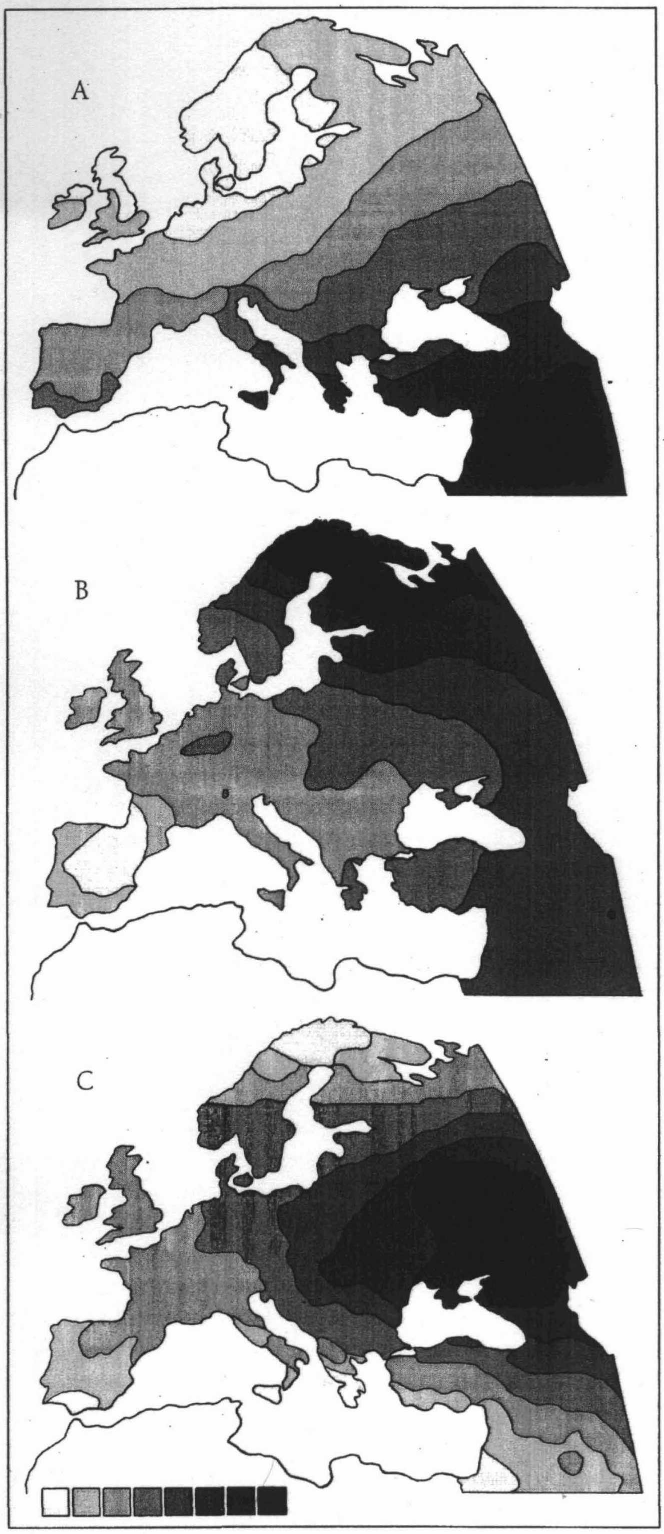
The continuous attempts to apply cranial metrics with language also had its persistent critics such as Max Müller who likened the concept of an Aryan (i.e., IE-speaking) "race" to a "dolichocephalic dictionary" and many argued that there is no obvious or scientifically sound way to identify directly the language of a prehistoric population from its physical type.

Although the type of correlations that were frequent in the nineteenth century have generally disappeared, the use of physical anthropology as a source of subsidiary evidence concerning population movements and contacts has not and so it still plays a role in discussions of prehistoric populations shifts. The selection of a single variable, however, such as the cephalic index, has been abandoned for multivariate analyses of human physical remains. As changes in physical characteristics may not only be explained by an influx of immigrants but also by environmental and subsistence fluctuations, the interpretation of the record of human physical types in Eurasia is far more ambiguous than nineteenth and earlier twentieth century scholars tended to think. Other than very major changes in human physical types, much of the evidence for migrations based on physical anthropology (given past excesses in such interpretations) tends to attract more scepticism than belief from current archaeologists.

Genetics

The most recent exercise in employing the evidence of human physical type in discussions of IE populations is founded on genetic data. Luca Cavalli-Sforza and his colleagues, for example, have prepared genetic maps of Eurasia, based on blood types and other factors, and these have been found to correlate often with linguistic borders; the assumption is that populations sharing the same language are more likely to intermarry than social groups speaking different languages. A study by G. Barbujani and R. Sokal suggested that thirty-one European linguistic borders could be correlated against thirty-three gene-frequency boundaries. Although such studies indicate to some extent the persistence of mating communities (many of the gene-boundaries also formed along natural boundaries), claims that they can also indicate the point of origin and dispersal patterns of the Indo-European languages are far more controversial.

A major problem with the use of genetic data is that they are based on modern (post-1945) gene maps and there is,



Physical Anthropology II Synthetic maps of genes based on the first three principal components. A = First principal component has been interpreted as the result of a "wave of advance" of Neolithic farmers from the Near East which is associated by some with the dispersal of the Indo-Europeans; B = Second principal component has been interpreted as reflecting Mongoloid admixture in Lapp populations; C = Third principal component has been interpreted as reflecting "Kurgan" expansions from the steppelands.

therefore, good grounds to doubt that such studies can control for the very considerable movement of populations across Europe since the initial expansion of the IE languages. Lacking control for the specific time depth of the boundaries, one might suspect that they are unable to pronounce on prehistoric population movements at all. Nevertheless, in the major study of genetic patterns in Eurasia, Luca Cavalli-Sforza and his colleagues have attempted to provide their synthetic maps of all Europe with historical explanations. They argue that the gross patterns seen in the application of principal component analysis permit one to arrange some of the patterns in sequence. The map based on the first principal component, which portrays a series of clines emanating from the Near East, specifically Mesopotamia, is explained by the movement of the first farmers across Europe from the Near East. They suggest that the Neolithic economy spread by population movement with the more productive economy of the earliest farmers replacing both the subsistence base and the earlier populations of hunter-gatherers. The effect of this replacement would be a genetic trajectory from the Near East westwards across Europe. It is also suggested that this trajectory may also reflect the movement of Proto-Indo-European speakers out of the Near East (the "Neolithic" or "Anatolian solution" to the problem of IE dispersals). Alternatively, the map based on the third principal component shows a similar east-west clination but here centered on the area north of the Black Sea. This cline, Cavalli-Sforza suggests, may support the concept of a later IE migration from the steppes across Europe (the "Kurgan solution" to IE dispersals)

The real value of such maps for elucidating IE dispersals is by no means clear. Given that an east-west movement from the Near East is also the likely model of Homo sapiens sapiens movements 40,000–30,000 years ago, other "prehistoric" explanations might be sought to account for the first principal component. The map for the third principal component with its origin in the Dnieper-Don region may suggest east-west spreads across Europe but again, given the continuous movement of populations historically recorded from the Iron Age onwards, it is very difficult to know precisely when this genetic pattern was established or whether we are discussing an extremely protracted genetic process. The genetic map of the third principal component also exhibits clines running southwards, which, given the logic of the previous interpretations, should indicate north-south spreads from the steppes toward Egypt which is historically and linguistically unmotivated by any obvious demographic event. The second principal component, which centers on northern Scandinavia, is explained either by mongoloid migrations from northwest Asia or the dispersal of the Uralic-speaking peoples. The latter hypothesis is particularly unconvincing given Proto-Uralic relationships with Indo-Iranian far to the south, i.e., the Uralic languages should have spread northwards into Lappland (over an indigenous population whose traits are retained among the modern Saami) and not the reverse.

Much of the explanation currently employed in mixing

modern genetics with the prehistoric distribution of languages tend to be circular, i.e., it requires one discipline to propose migrations and then these movements are employed to explain the observed genetic patterns; the genetic patterns do not in themselves require one to either assume that they reflect a real demographic movement of people or any single migration as an explanation.

Other studies that have modelled simulations based on the various homeland theories, e.g., the "Neolithic solution" that derives the Indo-Europeans from the spread of agriculture out of Anatolia or the "Kurgan solution" that explains the spread of Indo-Europeans from the steppelands in the fifth through third millennia BC, have purported to find some support for the Anatolian homeland. However, such studies have been founded entirely on European data which is incapable of representing a proper "test" of Indo-European dispersals. Generally, such studies also support an expansion of the Neolithic and attendant genetic patterns eastwards across Iran as well ("Elamo-Dravidian" movements). As these easterly migrations have nothing to do with IE expansions one must then, consequently, presume that the expansion of the Indo-Europeans across Asia is not (so far) genetically marked. If this is the case, it is difficult to see why one should accept conclusions drawn purely on the European evidence that may well support the movement of early agricultural populations across Europe but can in no way serve as proxy evidence for describing Indo-European movements.

The use of modern genetic patterns seems still a very uncertain tool for research into prehistoric problems. Obviously, analysis of DNA in prehistoric burials may mitigate this criticism in the future but the inherent methodological problem of not only being able to identify prehistoric population movements but also identify those that resulted in language shifts and which population experienced the shift suggests that the association of human physical types with language change will still require much further work.

See also Indo-European Homeland; Proto-Indo-European; Time-Depth. [J.P.M.]

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PICENE LANGUAGES

From the standpoint of linguistics and perhaps from that of ethnic-group, the term Picene is a misnomer if it is intended to suggest a single population. The historical Picenes were (an) Iron Age people(s) situated along the Adriatic coast from Rimini to the Sangaro River. In this area they have left abundant evidence of wealthy burials in a number of cemeteries, e.g., Servici and Molaroni at Novilara. The wealth of their graves, especially seen in weapons and ornaments, indicates either a vibrant sea-trade or piracy and there is evidence that they began trading with the Greeks by the seventh century BC. Their territory was finally annexed by the Romans in 268 BC.

The territory of the Picenes (identified archaeologically as the Middle Adriatic culture) is divided into two regions. The southern was centered on Belonte. The language of the southern Picenes is recorded in a few inscriptions and its IE identity is secure although little else can be claimed with any certainty. The Castignano inscription, for example, begins in clear enough Indo-European, i.e., *matereíh patereíh* '(to the) mother and father' but continues *qolofitúr qupiríh arítih ímih puíh púpúnum estufk apaiús adstaíúh súaís manus meitimúm.* The most recent translation, that of H. Eichner, reads: 'He who well ..._s mother (and) father, (him) here the elders of the Picenes have set up with their own hands as memorial' while an earlier one achieved by V. Pisani rendered this same grave inscription: 'To the mothers and fathers let this be, for the valiant *Arentes of the nether world, for which Manes the Appaei set up this obelisk as a monument'. There is a tendency to see in this language a close relationship with Osco-Umbrian. However, our complete inability to translate most of the words in South Picene should induce extreme caution in suggesting particular linguistic relationships.

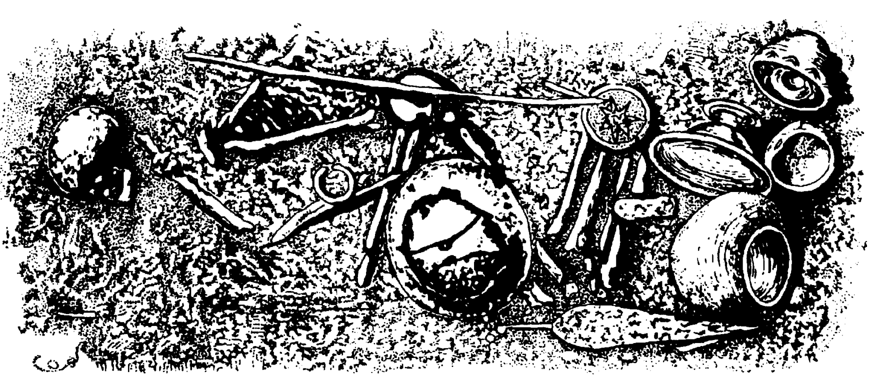
Text of Novilara Inscription:

mimnis · erůt · gaarestades
rotnem · ůvlin · parten · ůs
polem · isairon · tet
sůt · trat · neši · krůš
tenag · trůt · ipiem · rotneš
lůtůis · θalů · isperion · vůl
tes · rotem · teů · aiten · tašůr
soter · merpon · kalatne
nis · vilatos · paten · arn
ůis · balestenag · ands · et
šůt · i · akůt · treten · teletaů
nem · polem · tišů · sotris · eůs

Picene a. The text of the Novilara inscription.



b.



c.

Picene b. The reverse side of the Novilara inscription depicting a battle scene and the hunting of bears(?); c. Picene warrior's grave from Servici.

The northern territory appears to have been centered at Novilara where there are not only major Picene cemeteries but also one of the longest northern Picene inscriptions. Dated to the sixth or fifth centuries BC, the Novilara stele consists of hunting scenes (the prey is disputed: ?bear, ?boar) while the opposite side consists of twelve lines of text that have defied translation. Two schools of thought exist: one argues that the language is Indo-European on the basis of word endings which are somewhat reminiscent of Indo-European, e.g., *-em* (accusative). On the other hand, a number of linguists regard the language of Novilara and the few other, very short, northern Picene inscriptions as remnants of a language isolate, a non-IE language spoken in Italy before the arrival of the Indo-Europeans. As with both the Italic languages and the Etruscans, the earlier archaeological evidence in the Adriatic region indicates the presence of the Villanovan culture and underlines the difficulty in assigning specific archaeo-ethnic origins to the various peoples of Italy.

See also ITALIC LANGUAGES; MESSAPIC LANGUAGE. [J.P.M.]

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PIERCE

$terh_x$*-** 'pierce by rubbing'. [*IEW* 1071–1072 (**ter-*); Wat 70 (**terə-*); GI 152 (*$*t^her$-H-*)]. OIr *tarathar* 'instrument for drilling', Lat *terō* 'rub, wear away', *terebra* 'instrument for drilling', Lith *tiriù* 'inquire' (with a secondary meaning), *trinù* 'rub' (with secondary form), OCS *tĭrǫ* 'rub', Alb *tjerr* 'spin' (< 'rub [yarn] back and forth'), Grk ***τείρω 'pierce' ***τέρετρον*** 'instrument for drilling', OInd *tārá-* 'piercing'. Etymologically uncertain. Grk ***τέρετρον*** points to a root of the shape *$*terh_1$-* but Grk ***τιτρώσκω*** 'inflict a wound', which may be related, points to *$*terh_3$-*. It is possible that the meaning 'pierce' is a later semantic development of *$*terh_2$-* 'cross over' as has been suggested for the Old Indic form.

$h_{2/3}$u̯eg(h)- 'pierce'. [cf. Puhvel 3:327–330]. OPers *vag-* 'pierce', Hit *huek-* 'slaughter, butcher, slay' (< *'stab, stick'). Though only sparsely attested, this word would appear likely to be of PIE age.

dhu̯er- 'pierce'. [BK 144 (*$*d^yaw$-/$*d^y$əw-*)]. Lith *dūris* 'prick, stitch', *duriù* 'thrust, stab', Arm *dur* 'tool, gimlet'. Various derivatives are seen in Lith *dùrklas* 'spit, dagger, bayonet', Grk ***τύρχη*** 'two-pronged fork', Arm *durk* 'dagger'. At least a word of the center of the IE world. If it is seen in an enlarged form *$*dhu̯erh_x$-* in Hit *duwarnai-* 'breaks, shatters', OInd *dhvárati* 'bends, causes to fall, hurts', *dhū́rvati* 'injures, causes to fall', *dhūrtí-* 'injury', then we have evidence of great antiquity in IE.

dhelg- 'sting, pierce'. [*IEW* 247 (**dhelg-*)]. OIr *delg* 'needle, pin', MWels *dala* 'sting', Lat *falx* 'curved blade, pruning hook', *falcula* (< *$*dhl̥g-tleh_a$-?*) 'curved blade, pruning hook' (the *-a-* in Latin is difficult), OE *dalc* 'bracelet, brooch', Lith *dilgùs* 'stinging, smarting', *dìlgė* 'nettle', *dal̃gis* 'scythe'. Apparently a western word in (late) IE, overlapping, in part, the territory of the following word.

g^wel- 'sting, pierce'. [*IEW* 470–471 (**gu̯el-*); Wat 24 (*$*g^wel$-*); BK 359 (*$*q^wal$-/$*q^w$əl-*)]. OPrus *gallan* 'death (acc.)',

Lith *gélti* 'sting (as a bee)', *geluonìs* 'sting (of a bee)', Latv *gals* 'point', OCS *želo̜* 'deplore', Grk *βελόνη* 'needle', *δέλλιθες* (pl.) 'wasps'. Perhaps a word in some central dialects of (late) PIE.

See also **Auger**; **Bee**; **Harm**; **Rub**. [M.N., D.Q.A.]

PIG

sū́s (gen. ***s(u)u̯ós***) 'pig (wild or domesticated (*Sus scrofa*)'. [*IEW* 1038 (**sū-s*); Wat 67 (**sū-*); GI 508 (**sŭ-*); Buck 3.31; BK 169 (**s^yaw-/*s^yəw-*)]. Lat *sūs* 'pig; boar; sow', Umb *si-* (< **sū-*) 'pig; boar; sow', ON *sýr* 'sow', OE *sū* 'sow', OHG *sū* 'sow', OPrus *swintian* 'swine, pig', Latv *suvẽns* 'young pig', Alb *thi* (< **sūs*) 'pig', Grk *ῦς* 'pig (wild or domesticated); boar', *σῦς* 'pig (wild or domesticated); boar' (the Greek doublet with initial *s-*, rather than the phonologically regular *h-*, may reflect the influence of some non-Greek IE language), Av *hū-* 'pig', NPers *xūk* 'pig', OInd *sūkará-* 'pig, boar', TochB *suwo* 'pig'. Cf. the common derivative **suu̯einos* 'pertaining to a pig': Late Lat *suīnus* 'pertaining to a pig', ON *svín* 'swine, pig', OE *swīn* 'swine, pig' (> NE *swine*), OHG *swīn* 'swine, pig', Goth *swein* 'swine, pig', Latv *svīns* 'dirty', OCS *svinŭ* 'pertaining to a pig', *svinija* 'pig'. Cf. TochB *swāñana misa* 'pork'. With a short vowel **su-* we have OIr *soc* 'pig's snout; part of a plow', Wels *hwch* 'pig' (borrowed > NE *hog*) (Celtic < **sukko-*), Late Lat *suculus* 'young sow', *subulcus* 'swineherd', OE *sugu* (< **sukéh$_a$-*) 'sow' (> NE *sow*), Myc *su-qo-ta* 'swineherd', Grk *συβώτης* 'swineherd'. It has often been assumed that the word for 'pig' is a derivative of **seuh$_x$-* 'bear, bring forth' (and thus we should reconstruct **sū́h$_x$s* rather than **sū́s*). Such an assumption makes sense semantically in that the pig is the only livestock animal to give birth to litters and obviously that characteristic would be very salient to those practicing animal husbandry. It receives some support in the Old Irish word for 'sow', *birit*, which is etymologically 'one who bears'. Against such a hypothesis, however, is the fact that in most early IE traditions this word is not restricted to 'sow' as this hypothesis might suggest. More difficult yet is the fact that, if the root is **suh$_x$-* as this hypothesis demands, there is no easy explanation for all the forms with **su-* (in Celtic, Latin, Germanic and Greek). It is better to take the root to be **su-*, perhaps as others have suggested ultimately based on a call to pigs (cf. NE *sooey!*). The long vowel would be phonologically regular in the monosyllabic **sūs* and also regularly optional, by Lindeman's Law, in such disyllabic forms as the genitive **s(u)u̯ós*. Whatever its origin, this word is clearly widespread and old in IE. It fails to appear only in Armenian and Hittite, and since we do not know the Hittite word for 'pig' (we have only the Sumerogram) its failure to appear in that language may be only accidental.

h$_1$eperos 'boar (adult male of *Sus scrofa*)'. [*IEW* 323 (**epero-*); GI 434–435 (**q^hwep^h-*); Buck 3.23]. Lat *aper* 'boar', Umb *apro-* (the Italic *a-* rather than the expected **e-* may reflect the influence of *caper* 'he-goat') 'boar', ON *jo̜furr* 'prince', OE *eofor* 'boar', OHG *ebur* 'boar', Latv *vepris* 'boar' (borrowed from Slavic?), OCS *veprĭ* 'boar', Rus *veprĭ* 'boar' (Baltic and Slavic with obscure *v-*). Probably belonging here as well is Thrac *ἕβρος* 'buck'. At least a word of the west and center of the IE world.

pórk̂os 'young pig, piglet'. [*IEW* 841 (**pork̂o-s*); Wat 52 (**porko-*); GI 508 (**p^hork̂^ho-*); Buck 3.31; BK 46 (**p[^h]ar-/*p[^h]ər-*)]. MIr *orc* 'young pig', Lat *porcus* 'young pig', Umb *purka* 'pig', OE *fearh* 'pig' (cf. NE *farrow*), OHG *far(a)h* 'young pig', OPrus *prastian* 'young pig', Lith *paršas* 'young pig; castrated male hog, farrow', OCS *prasę* 'young pig', Rus *porosënok* 'young pig', Av *pərəsa-* (< **parəsa-*?) '± young pig', Khot *pāsa-* 'pig'. From **perk̂-* 'dig/root up the earth', i.e. **pórk̂os* would be an agent noun, i.e. 'one who roots'. Pre-Iranian **porśos* was borrowed into Uralic (e.g., Finnish *parsas* 'pig').

?*keul- 'pig'. MWels *Culhwych* Welsh mythological figure associated with swineherds and boar-hunting (< **keulV-* + *hwych* 'sow'), Lith *kiaũlė* (< **keulii̯eh$_a$-*) 'pig'. An isogloss restricted to the northwest.

ĝhor- 'young pig'. [*IEW* 445 (**ĝhers-*)]. Alb *derr* 'pig, hog, swine', *derk* 'piglet' (< **ĝhōr-n-* or **ĝhor-ni-?*), Grk *χοῖρος* (< **ĝhori̯os*) 'young pig; swine'. Perhaps a late word of the center of the IE world; a derivative of **ĝher-* 'bristle'.

?*tu̯ork̂ós 'boar'. [cf. *IEW* 1032]. OIr *torc* 'boar', Av *θβərəsa-* 'boar'. The Avestan word is a *hapax legomenon* so is not as secure as one would like but the apparent agreement in form and meaning of the Avestan and Old Irish is good evidence for PIE antiquity. This word may be a derivative of **tu̯erk̂-* 'cut', itself only sparsely attested in Grk *σάρξ* 'flesh' (< **tu̯r̥k̂s* 'that which is cut off').

Archaeological Evidence

The wild pig (*Sus scrofa*) was encountered from the Atlantic to the Pacific and was frequently hunted in both the Mesolithic and Neolithic in quantities approaching those of red deer. Pig domestication began by the seventh millennium BC in Anatolia and southeast Europe. The distribution of the domestic pig is of considerable interest. While it is found across Europe, it tends to be absent from the steppe region east of the Urals, i.e., territories which were historically associated with eastern Iranians and which may have served as the putative staging area for Indo-Iranian and Tocharian migrations. For example, it appears to be absent in the Andronovo and Afanasevo cultures which have often been assigned Proto-Indo-Iranian or Tocharian identities. Moreover, the domestic pig, although found in the Ukraine and Caucasus, is rarely encountered in the steppe region north of the Caspian or in the southern Urals until the Bronze Age. By the Bronze Age, the domestic pig was introduced into these more easterly regions and this may correlate with the borrowing into Uralic (e.g., Finnish *porsas* 'suckling-pig') of the Indo-Iranian or earlier IE form of the word for domestic pig.

Pigs in IE Traditions

The pig in Indo-European beliefs is a mysterious, liminal animal, having a wide variety of different associations with

the otherworld and the supernatural. It is associated with death and decay, burial and the underworld, and regarded as a harbinger of death; it is associated with vegetation goddesses and the cycle of crops; with heroes, but in a posture of defense and mortality; with divine or otherworldly guidance; with the sky and the sun; and with celebration and feasts. Most Indo-European cultures seem to hold two or three of these beliefs, although no one culture displays them all.

First, the association with death, the earth, and burial. The Romans believed, according to Cicero's *De Legibus* (2.22.57) *nec tamen eorum antea sepulchrum est quam iusta facta et porcus caesus est* 'a tomb was not formally completed as such until the rites had been performed and a pig killed'. On Roman tombs, lions most frequently represented death devouring a victim, but boars and bears can be substituted. Boars are especially popular on funerary monuments in Roman Germany, probably because the animal was more common there. In Celtic stories, too, the pig has underworld connections: in the tale of *Mag Mucrime* magic pigs come or are sent from the gates of the underworld to ravage the land for seven years, and in the Welsh story of *Lleu Llaw Gyffes*, sows feed hungrily on the rotting flesh of Lleu as it falls from him while he is in the shape of an eagle sitting in a tree.

On the reverse side of the coin, the pig is regarded as very suitable food for a funeral feast. The Hittites, Germanic tribes, and Celts are particularly noted for having pig bones or even entire skeletons buried in graves.

The association of the pig with the underworld can be explained by the habits of the animal. Not only do they wallow in mud, they also root in the earth to find food. From medieval times on, pigs had snout-rings to keep them from rooting up the farmer's fields. Pigs also eat snakes, thereby overcoming another chthonic creature. The pig is a rarity among animals, a flesh-eater which does not actively hunt for meat. Seemingly vegetarian, a pig will devour a dead or motionless body if it comes across one, and this duality in its nature can be perceived as sinister and unnatural.

The connection with earth leads fairly clearly to the connection with vegetation goddesses. In Neolithic southeast Europe, the pig is represented in sculpture as often as dogs, bulls, and goats. There is the figurine of a goddess wearing a pig mask, and pig sculptures have marks where grain was pressed into the clay

In Greek mythology, the pig is sacred to Dēmētēr. It was an essential part of the Eleusinian mysteries for purification rites, and was featured on coins from Eleusis. At the Thesmophoria festival, mourning Persephonē's descent into Hādēs and celebrating her return, suckling pigs were thrown into underground caves to rot and be eaten by snakes. Three months later, the remains were brought to the altars and mixed with seed corn for a good crop. The pigs represent Persephonē, who is called *Pherrephatē*, the killer of piglets; she is taken into the earth and apparently destroyed by death, but returns and ensures another year's fertility. According to legend, a swineherd, Eubūleus, is the first to tell Dēmētēr what has happened to her daughter, and the tracks left by Hādēs' kidnapping are obliterated by pig tracks. Diāna also has an association with boars: when her worship is neglected in Calydon, she sends a monstrous boar to lay waste the crops. This story is reminiscent of the Irish tale mentioned earlier of the otherworldly pigs which lay waste all vegetation for seven years.

In Scandinavian mythology, Freyja is the goddess of fertility and crops, aided by her brother Freyr. Both of them own pigs: Freyja has the boar Hildisvīn (Battle Swine), whose shape she allows her protégé Ōttar the Simple to assume as a disguise in the poem *Hyndluljoð*. (This theme of humans taking pig form is reminiscent of Circē's transformation of Odysseus' men into swine.) Freyja is herself given the complimentary epithet *Syr* 'Sow'. Freyr owns a pig with golden bristles, made for him by dwarves, which not only runs faster than a horse but illuminates the night with its shining bristles.

The relationship between pigs and vegetation deities undoubtedly has to do with the pig's earthy connections, but also with its metabolism. Because pigs fatten very rapidly, they can be seen to swell like the burgeoning crops, and like the crops, their greatest value to man is to reproduce and be eaten.

In its wilder aspect the boar is associated with warriors and warrior virtues. Throughout Europe and Asia Minor, the boar hunt is a *sine qua non* for proving valor and worthiness. Extended into myth, the pig can be a nocturnal disguise for heroes who are avoiding pursuit or warding off enemies. The boar becomes the symbol of the hunter and warrior, but almost always from the perspective of the killer doomed in turn to die, the warrior on the defensive. Boars as quarry have been represented in art as far back as the fourteenth millennium BC; we have an impressive cave painting of a fierce-looking boar *c* 13,500 BC from Altamira, northern Spain.

In Greek mythology, nearly every hero kills his boar. Hēraklēs' third labor was slaying the Erymanthean boar; Thēseus killed the monstrous sow Phaea, and Meleāger kills the boar sent by Diāna to ravage the countryside of Calydon, a feat which results in a quarrel leading to his own death. Odysseus, too, killed his boar, albeit offstage: his old nurse Euryclēia recognizes him by the scar from a long-ago boar hunt on his leg. In the *Iliad*, Homer uses lions and boars as images of the hunt almost interchangeably: 'as a boar or lion turns exulting in its power against the dogs and hunters' (12.41). On Greek funeral monuments too the boar and lion often appear, but while the lion is the victorious hunter, often seen devouring its prey, the boar is the gallant loser, representing the victim of death, the fighter who has been conquered by the final adversary.

Boars and lions are also paired in Vedic myth: Indra, chastising his son for arrogance, uses the metaphors, 'a fox crept up to the lion from behind', 'a jackal attacked the wild boar from ambush' (*RV* 10.28).

Another pointer showing the defensive, doomed aspect of the warrior-boar may occur in Hittite. A ritual for purification

after a military defeat calls for the sacrifice of a prisoner of war, a pig and a dog. The bodies are cut in half, and put on either side of a wooden gate flanked by fires near a river. The army marches through and is sprinkled with river water.

In Scandinavian, Germanic, and Anglo-Saxon territory the boar shows up frequently in its role of warrior on the defensive. Boars are frequently engraved on helmets, helmet-plates, and shields, all defensive weapons, although there is at least one sword from East Anglia stamped with three small boars. An Anglo-Saxon helmet with a gilded boar crest embellished with ruby eyes was recovered from a Benty Grange tumulus, perhaps resembling the boar on cheekguards mentioned in *Beowulf* whose function, we are told, was to protect the wearer. Another Anglo-Saxon writer, Cynewulf, tells us that the emperor Constantine before his conversion slept 'covered by the boar-sign', clearly under the animal's protection. The Baltic tribe of the Aestii, according to Tacitus, had boars on their helmets, and perhaps boar masks or faceplates: a helmet-plate from Vendel, Sweden, shows a warrior with what seems to be a boar mask with one tusk protruding.

We also hear of a Swedish king who held as a great treasure a boar helmet named Hildigōltr, 'Battle-pig' and a heavy neck-ring named Sviagrīss 'Swede's piglet'. To this monothematic collection he later added a second helmet, Hildisvīn 'Battle-swine'—the name of Freyja's boar.

But overall, it is the Celtic tribes which value the pig most highly. It is the most important sacred animal, depicted again on helmets and shields, and worshipped as a god in a semi-anthropomorphic form. The god Moccus 'Pig' is identified with Mercury, and there is also the British god Vetiris, whose statues are ornamented with pigs and boars. The boar is particularly prominent among the Celtic tribes in the time just before the Roman domination, a time when the Celts may well have felt on the defensive.

Even the swineherds share in the pig's charisma. The Welsh hero Culwch is born where a swineherd is watching his pigs. (This story has been explained as a transformation of an original rendition in which he is fathered by the boar-god). And in the *Triads*, there are three powerful swineherds of the Isle of Britain: Pryderi, who brought the pig to Wales from the otherworld, Drystan, who prevented King Arthur from taking away one of King March's pigs, and Coll, who followed a mysterious sow across the Island of Britain.

In central Spain and northern Portugal, many Celtic hillforts are guarded by larger-than-life-size stone sculptures of boars and bulls which overlook the cattle-enclosures. These probably served a dual function of protection and fertility.

The flesh of the pork is valuable both to the living and to the dead. Several Irish stories contain accounts of highly ritualized disputes over the champion's portion of the pig at a feast. Pork cuts were allotted by status: the leg to the king, the haunch to the queen, and the boar's head to the charioteer. Poseidōnius observed that the thigh was the portion allotted to the ranking champion. A whole pig or joints of pork were buried with the dead; a chariot burial in Champagne contains a whole boar skeleton, although it is hard to know whether this was meant as provisions for the journey, support for the warrior, or even a psychopomp, i.e., one who escorts the deceased to the afterlife. In the north of England, too, Iron Age burials frequently contained offerings of pigs as food.

Why did the boar have this image? Among dangerous animals, it is almost unique in being hunted for food rather than protection. The boar is a loner, and unlike the lion with which it is so often compared, it does not pose a threat to humans if it is left alone; when threatened and at bay, however, no animal fights more fiercely. But its ferocity is of no avail; boars which face lions or hunting parties are always doomed to lose, just as warriors, however brave, must finally lose the battle against death.

A fourth pig association, which is less culturally widespread than the previous ones, connects the pig with divine or supernatural knowledge and powers of prognostication, and frequently divine origin. The most famous example is probably in the third book of the *Aeneid*, when the priest of Apollō advises Aeneas to travel to Italy and found a city where he sees a white sow suckling thirty piglets under an ilex tree by a river (*Aeneid* 3.390–393). The white color immediately brings to mind the Welsh sow Henwen 'Old White' which Coll, one of the swineherds mentioned earlier, followed across Britain. As she went, she gave birth to such prodigies as grains of wheat and barley, a bee, a wolf cub, and a baby wildcat (*Culwch and Olwen*). Certainly some otherworldly association is traceable here. Following a pig can be perilous, too; the Irish Finn follows a boar at first voluntarily and then by compulsion, and ends up in a *sidh* under threat of getting married (*Duanaire Finn*). The Welsh Pryderi, who has many pig connections, follows a white boar into a mound; his mother pursues him, and both must eventually be rescued by Manawydan from the power of the otherworld (*Manawyddan mac Llyr*).

The Irish Diarmuid has a different problem: his foster-brother is an enchanted boar and their lives are bound together by fate; predictably, they kill each other. Then there is the Welsh Twrch Trwyth, a magical boar in *Culwch and Olwen*, who carries a comb and razor between his ears; he is captured by Mabon so that Culwch can fulfil his quest.

Certainly the Celts viewed pigs as having a divine origin. It was the Tūatha Dē Danann who brought the pig to Ireland (which was known in the Iron Age as Muic Inis, 'Island of Pigs') and pigs came to Wales as a gift to Pryderi from the king of the otherworld. These pigs were later fraudulently obtained by Gwydion, causing a war between north and south Wales. That some pigs remained in the otherworld we know, because in one Irish tale a pig is killed and cooked every evening for feasting, but is alive and whole again in the morning (cf. the never-ending supply of pork in Valhalla).

Many of these connections with the supernatural can be explained by the pig's own characteristics. Pigs eat snakes, and they apparently suffer no ill effects from snakebites

because of their subcutaneous fat; according to one authority, the pig is 'the only animal other than man capable of thinking through a problem to a rational solution'. Pigs can be trained to do any tricks a dog is capable of, and this obvious intelligence in so earthy a creature seems so incongruous as to require divine intervention. Rooting for truffles, too, is a display of powers far beyond human capacity; it seems miraculous that an animal can detect something buried up to a foot deep. Pigs are also close to impossible to herd (and therefore valueless to nomads); it can be frustrating to find such a sluggish beast so easily able to evade its would-be drivers.

Another point, which may help to explain the stories of boars who are enchanted men, is that the pig is the only animal other than man which will drink alcohol deliberately to the point of drunkenness. The pig is physiologically more similar to man than any animal except the primates, and this must lead to a degree of fellow-feeling, on our part, at least.

To summarize, then, it seems that there are a number of reasons why the pig was regarded by most of the Indo-European peoples as a sinister and supernatural creature, with connections to the underworld and death, otherworldly knowledge, and the world of men and heroes.

See also MAMMALS; PLOW. [D.Q.A., J.P.M., L.J.H.]

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PIKEPERCH *see* CARP

PILLAR *see* POST

PIN

?*dhelg- 'pin'. [*IEW* 247 (**dhelg-*)]. OIr *delg* 'thorn, pin, brooch', Corn *delk* 'necklace', ON *dālkr* 'pin to fasten cloak; dagger, knife', OE *dalc* 'bracelet, brooch'. Possibly a word of the west of the IE world.

?*n$_e$dskéh$_a$- 'tie, ring'. [*IEW* 758–759 (**ned-*); Wat 44 (**ned-*)]. OIr *nasc* 'fastening tie, ring', OHG *nuska* 'metal-clasp'. If correctly reconstructed a word of the far west of the IE world. From **ned-* 'bind'.

Confined to the northwest periphery of the IE world, although these terms may refer back to an organic predecessor (cf. *Germania* 17 where Tacitus claims that the early Germans fastened their cloaks with thorns), the referent of the **dhelg-* may just as well have been a metal pin which is known from the early Bronze Age in continental Europe and in the later Bronze Age in the British Isles.

See also CLOTHING; TOOL. [D.Q.A., J.P.M.]

PINE

****péuk̂s*** (gen. ****puk̂ós***) '(Scotch) pine, conifer (*Pinus sylvestris*), (any) conifer'. [*IEW* 828 (**peuk̂-*); GI 543–544 (**p^{h}euk̂^{h}-/*p^{h}uk̂^{h}-*); Buck 8.64; Fried 31–32; Camp 159–161]. OIr *ochtach* ~ *ochtgach* 'pine, fir', OHG *fiuhta* 'fir' (also 'pine'?), OPrus *peuse* 'pine', Lith *pušìs* (dial. pl. *pùšes* showing the remains of an old consonant stem) 'pine; fir', Grk **πεύκη** 'pine, spruce', Waigali *puc̣* 'species of pine'. Widespread and old in IE.

****pit(u)-*** '(some form of) conifer, (probably) pine'. [*IEW* 794 (**pĭ̄-tu-*); cf. Wat 47 (**peiə-*); GI 543–544 (**p^{h}it^h-*); Fried 31–38]. Lat *pīnūs* (< **pitsno-*) 'pine', Alb *pishë* (< **pitso-*) 'spruce, pine, fir', Grk (Homeric) **πίτυς** 'pine, spruce', and a bit more questionably Wakhi *pit* a species of tree, OInd *pītu-dāru* '*Acacia catechu*' (a resinous tree with hard wood) or 'deodar' (a kind of pine). If the Asiatic cognates are accepted, then a word of PIE status; otherwise, a word of the west and center of the IE world.

****k̂óss*** ~ ****k̂ós*** (gen. ****k̂ésos***) '(Scotch) pine'. OE *haraþ* ~ *harad* 'a wood', OHG *hard* 'mountain forest, wooded hills' (< **k̂os-dhh$_1$-o-* 'pine-place'?), Khot *?saha-cara-* '*Barleria cristata*', *?saha-marai* (a plant name); from **k̂osnó-* 'piney': OE *cēn* 'torch (of resinous pinewood)', OHG *kēn* ~ *kien* 'resinous wood, torch', NDutch *kien(spaan)* '(piece of) resinous pine-wood' (Gmc < Proto-Gmc **kezná-* regularly by Grimm's Law from pre-Gmc **gezná-* itself by voicing assimilation from late PIE **keznó-* with new full-grade), Rus *sosná* 'pine', Grk **κῶνος** 'pinecone; pine-seed; cone', **κῶνα** 'pitch', **κώνειον** 'hemlock (*conium maculatum*); giant fennel (*Ferula communis*)' (Greek from lengthened grade **k̂ōsno-* 'that pertaining to pine'), Shughni *sānǰ* 'stout beam extending to the edge of the bedstead', Oroshi *sānǰ* 'post', Yazghulami *sanǰ* 'beam' (Proto-Iranian **sanaka-* with dissimilatory loss < **sasnaka-* < **k̂osno-k$^{(w)}$o-* 'pine-beam'?), ? Khot *sānā-* '*Celosia cristata, Ptychotis ajowan*'. The words preceded by a question-mark have as their referents shrubs or herbs rather than pines and might be considered semantically incompatible. However, it should be pointed out that the relationship within Greek of **κῶνος** and **κώνειον** has never been seriously doubted and that NE *hemlock* includes among its referents both the herb *Conium maculatum* and any tree of the genus *Tsuga* of evergreen coniferous trees of the pine family. Certainly a word of the center and west of the IE world. If the semantically divergent words from Iranian also belong, then we have evidence for its widespread existence in PIE.

?*pr̥̂k$^{(w)}$eh$_a$- (or ****púrk$^{(w)}$eh$_a$-?***) 'pine' (or 'fir'?). [cf. *IEW* 822–823 (**perk$^u̯$u-s*)], Italian (dialect of the Trentino) *porca* 'fir' (borrowed from Raetic?), ON *fura* 'pine', OE *furh-wudu*

'pinewood' (> NE *fir*), OHG *for(a)ha* 'pine'. These words have been almost universally taken to be related in some fashion to **pérkʷus* 'oak'.

The complex situation involves several reconstructible terms and, at first blush, almost a dozen referents but there are basically three conifers involved in most of the reconstructed meanings: pine (*Pinus*), fir (*Abies*), and spruce (*Picea*) although cognate sets possibly ascribable to the last term tend to be dialectally restricted, e.g., Balto-Slavic: OPrus *addle* 'spruce', Lith *ēglė* 'spruce', Latv *egle* 'spruce', Rus *elʹ* 'spruce'. The Scotch pine (*Pinus sylvestris*) was presumably the primary or most frequent meaning of PIE **péuk̑s*. The second term, **pit(u)-*, is primarily confined to three Mediterranean stocks but may include Indo-Iranian examples as well. Although Gamkrelidze and Ivanov have argued that the two roots may retain an ancient distinction between **péuk̑s* 'pine' and **pit(u)-* 'fir', supposedly evident in the distinctive meanings seen in the Greek cognates, neither the lexical evidence nor that of the local botanical environments of the cognate stocks requires this interpretation. What we can say is that despite the plethora of early IE forms and meanings and the general confusion of names, the data almost never include juniper, cypress, cedar, yew nor any evergreen aside from pine, fir and spruce (nor the larch). PIE **péuk̑s* was presumably then a middle level taxon between 'conifer' and the three genera in question, i.e., 'fir', 'spruce' and 'pine'. For these and for specific types an adjective may have been added, as today with silver fir and Scotch pine. The PIE conifer terms correspond strikingly to terms in Finno-Ugric and may reflect an early borrowing, e.g., Proto-Finno-Permian **pečä* as in Mordvin *pitše* 'pine', Proto-Finno-Ugric **piška* 'resin, pitch, gum', and Proto-Finno-Ugric **puxi* 'tree'.

The fir (*Abies*), spruce (*Picea*) and pine (*Pinus*) were all probably in the PIE area. Of these, the firs were mainly in the hills and mountains except the white or silver fir of central Europe. Pollen evidence indicates that in the period *c* 6000–3000 BC, the fir was spread from Spain and France in the west eastwards across the Mediterranean and central Europe and then across the Ukraine and Russia through Siberia. It is also frequent in Anatolia and was known from the Caucasus. It was absent, however, in Atlantic and northwest Europe and throughout the Baltic region. The spruce grew on the edges of highlands and across central Russia and Siberia west to eastern France. It is also known from southwest Anatolia. Prevalent in the Baltic region, it is however absent from northwest and Atlantic Europe. Among the pines, two occupied specific niches, e.g., the mountain pine (*Pinus mughus*) of the Carpathians, whereas the Scotch pine (*Pinus sylvestris*), a distinctive tree with blue-green needles and bright orange bark, was found over most of Eurasia and often formed great forests, as it does still today. Pine was used for building dwellings, ships and other artifacts, and, as terms in descendant languages suggest, also for tar, resin and the like. The distribution of all three main conifers was so wide that they could accommodate almost any solution to the homeland problem other than (in the case of fir and spruce) one situated in northwest Europe.

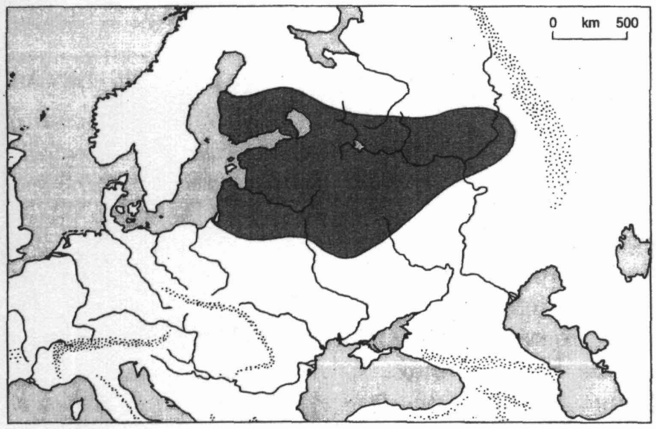
See also FIR; OAK; SAP; TREES. [P.F., D.Q.A.]

PIT-COMB WARE CULTURE

The term Pit-Comb Ware culture can be applied specifically to a culture of the *c* fifth–third millennia BC occupying the territory between the east Baltic to the northern Ukraine. It is also applied as a blanket term for a series of cultures stretching across the forests from eastern Scandinavia to the Urals from the fifth millennium BC onwards. These cultures might include the Narva culture of the Baltic region, the Sperrings culture of Finland, the Pit-Comb Ware culture proper of western Russia to the Ukraine, the Upper Volga-Oka Pit-Comb Ware (or Lyalovo) culture, the Kama Neolithic culture, and the Ural Neolithic culture. Similarities between these different cultures are such that they can be treated as a single block with reference to the Indo-Europeans.

In general, the Pit-Comb Ware culture occupied the forest region of northeast Europe and settlements are primarily confined to the Baltic, lakes, and rivers where the economy was primarily, in most areas exclusively, based on hunting-fishing and gathering. The wild fauna is extensive but is particularly comprised of red and roe deer, elk, aurochs, wild pig and beaver with a considerable number of other species (bear, fox, wolf, marten, otter, wolverine, lynx, etc.); coastal sites have also yielded remains of seals. There is some evidence for mixed farming in the Baltic, e.g., in the Narva culture of Lithuania there is evidence for sheep and goat and sickle blades attesting (perhaps) some agriculture. Evidence for habitations often tends to be slight except in areas where marine resources permitted longer term stable settlement, e.g., the Baltic coast. Normally, the evidence for settlement is limited to transient camp sites in its earlier phases but by the late phase there is some evidence for more substantial houses, measuring up to 8 x 5 m in size, and sunken into the ground. Tools comprised arrowheads, spearheads, harpoons, axes, fishhooks and other implements appropriate for a hunting-gathering economy. The Pit-Comb Ware culture also made use of pointed-based, frequently highly-decorated, pottery. Where the iconography is representational, it sometimes depicts water birds.

The region of the Pit-Comb Ware culture would appear to lie too far north of what is normally presumed to have been an area of early Indo-European settlement. Moreover, its culture, primarily hunting-gathering rather than agriculture and stockbreeding, makes a very poor fit with the picture of PIE culture derived from linguistic evidence and later technological items such as wheeled vehicles, metals, plows, etc., would also be very foreign to the Pit-Comb Ware culture. As its geographical location accords well with the later distribution of the Uralic-speaking peoples and its economy also accords in general with that reconstructed lexically for Proto-Uralic it has often been regarded as the archaeological expression of the Uralic language family. This equation,



Pit-Comb a. Generalized distribution of the Pit-Comb culture(s).

however, also has many critics as it has proven nearly impossible to correlate the various Pit-Comb Ware cultures with the inter-stock divisions of the Uralic language family or their probable movements. Moreover, toponymic evidence from this region suggests some reason to identify a strata of non-Uralic (and non-Indo-European) language(s) in the Pit-Comb Ware area, especially in the Volga-Oka region. Chronologically, many prefer to have the Proto-Baltic-Finnish movement begin only in the last millennium BC and find its ascription to populations in this area so many millennia earlier as extremely doubtful. The widely disseminated presence of (Indo-)Iranian loanwords in the Uralic languages would also suggest that their dispersal was later than the fifth or fourth millennium origin of the various Pit-Comb Ware variants. Finally, there is a body of scholars who prefer to situate the original home of the Uralic languages at least east of the Upper Volga if not east of the Urals altogether.

The fate of the Pit-Comb Ware culture is also problematic. The Baltic, central Russia, and the northern Ukraine were all areas of the later Corded Ware horizon, e.g., Battle-ax culture, Fatyanovo culture, Middle Dnieper culture, which has generally been associated with early IE movements. However, these cultures appear in some areas where we have no reason to suspect early IE settlement, e.g., central Russia, and there they have often been seen to have been culturally (and presumably linguistically) assimilated by the descendants of the Pit-Comb Ware populations.

See also CORDED WARE CULTURE. [J.P.M.]

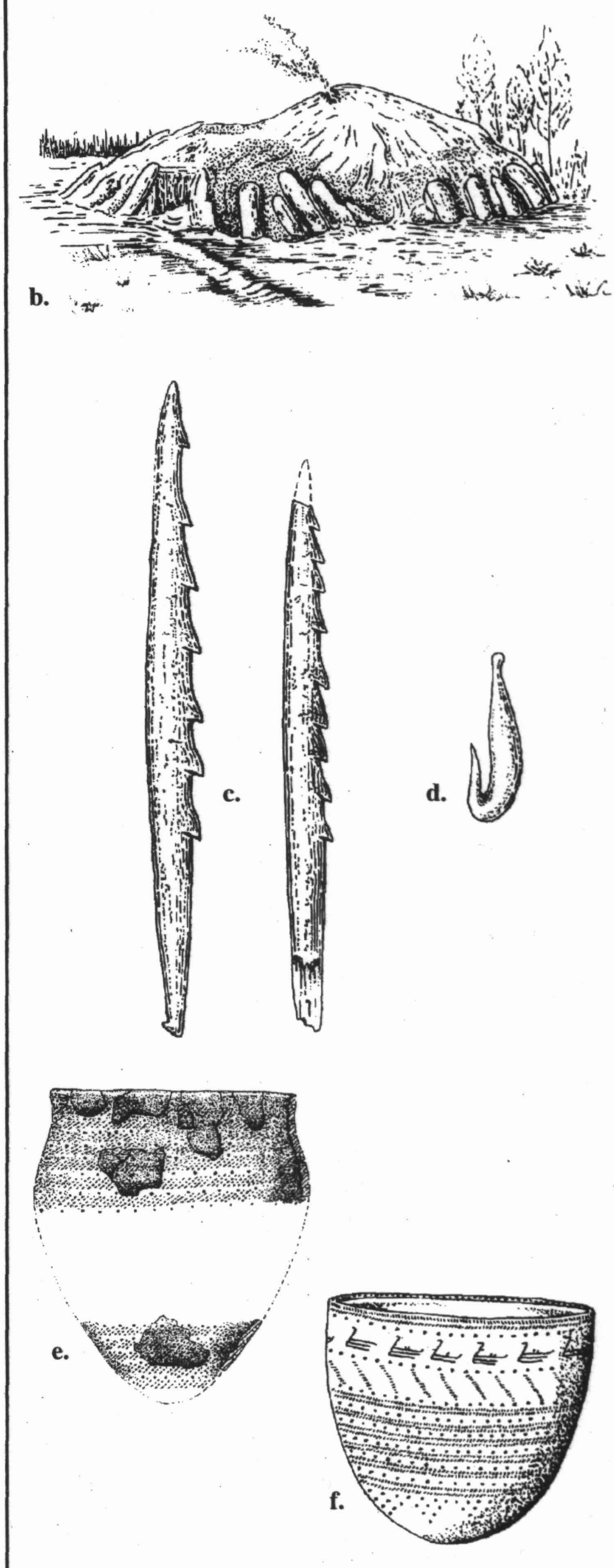
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PITCH *see* SAP

PLACE

***stéh$_2$tis** (gen. ***sth̥$_2$téis**) 'place'. [*IEW* 1006 (**stə-ti-*); Wat 64–65 (**stā-*); GI 143 (**sthH̥-*)]. With zero-grade generalized:



Pit-Comb b. Reconstruction of hut at Voi Navolok; c. Antler harpoons; d. Fishhook; e. Pit-comb pot from the Ukraine; f. Waterbirds on pot from northern Russia.

Lat *statiō* 'position, station', ON *staðr* 'place', OE *stede* 'place' (> NE *stead*), OHG *stat* 'place, site' (> NHG *stadt* 'city'), Goth *staþs* 'place, land', Lith *stãčias* 'standing', Grk *στάσις* 'place, setting; standing stature', OInd *sthíti-* 'position'; with full-grade generalized: ON *(hug-) stœðr* 'firm', OCS *po-statĭ* 'part, manner', Av *stāiti-* 'station'; Cf. **sth̥$_2$tó-* 'placed, standing': Lat *status* 'standing', Lith *statùs* 'standing' (with semi-regular shift to a *u*-stem), Grk *στατός* 'placed, standing', OInd *sthitá-* 'standing'. Widespread and ancient derivatives of **steh$_2$-* 'stand (up)'.

stéh$_2$mōn (gen. ***sth̥$_2$méns*** or ***sth̥$_2$mnós***) 'what stands, stature, position, warp'. [*IEW* 1007–1008 (**stā-men-*); Wat 64–65 (**stā-*); Buck 12.11]. MIr *samaigid* 'sets down' (denominative verb), Wels *sefyll* 'a stand', Lat *stāmen* 'warp', OE *stemn* 'stem', OHG *stam* 'stem', Goth *stōmin* 'stem', Lith *stomuõ* 'stature', Latv *stãmen* 'body, torso', Grk *στήμων* 'warp', OInd *sthā́man-* 'position', TochA *ṣtām* 'tree', TochB *stām* 'tree'. Distribution secures PIE status. From PIE **steh$_2$-* 'stand'.

?*sth̥$_2$tlom ~ *steh$_2$tlom 'place'. [*IEW* 1007–1008 (**stā-tlo-*); Wat 64-65 (**stā-*); Buck 12.11]. From **sth̥$_2$tlom*: ON *stǫðull* 'place', OE *staðol* 'place, foundation', OHG *stadal* 'station'; from **steh$_2$tlom*: Lat *ob-stāculum* 'obstacle' (< *'what stands in front'), OCS *stadlo* 'place'. These words are very likely to be independent creations in the three stocks that show them.

See also Stand [A.D.V.]

PLAIT *see* TEXTILE PREPARATION

PLANK

bhélh$_a$ĝs (gen. ***bhl̥h$_a$ĝós***) 'plank, beam'. [*IEW* 122–123 (**bheleĝ-*); Wat 7 (**bhelg-*); Buck 9.51]. ON *bjalki* (< **bhelh$_a$ĝ-eh$_a$-n-*) 'beam', OE *balc ~ balca* (< **bholh$_a$ĝ-(o)(-on)-*) 'bank, ridge' (> NE *balk*), *bolca* (< **bhl̥h$_a$ĝ-on-*) 'ship's gangway', OHG *balko* (< **bholh$_a$ĝ-o-on-*) 'beam', Lith *balžíena(s)* 'flexible crosspiece on a sled', Latv *bàlziens* 'binding on sled', Rus (dial.) *bólozno* 'thick plank', Grk *φάλαγξ* 'post, beam'. A variant **bhl̥k̂-* is apparently to be seen in Lat *fulciō* 'prop up, support with props', Grk *φάλκης* '± beam, plank, rib of ship'. No known root connections. At least a word of the west and center of the IE world.

kl̥h$_x$-ro-s 'plank'. [*IEW* 545 (**klāro-*); Wat 28 (**kel-*); Buck 9.52]. OIr *clār* 'plank', Wels *clawr* 'plank', Grk *κλῆρος* 'piece of wood for casting lots'. From **kel-* 'strike, hew'. The verbal root has many suffixes referring to something broken or cut off, the means and the results of striking. Derivative appears to be late IE with some independent developments.

sph$_a$en- 'flat-shaped piece of wood'. [*IEW* 980–981 (**sp(h)ē-*); Wat 63 (**spē-*); GI 38 (**sp^{h}on-d^h-*); Buck 8.23]. OIr *sonn* 'staff; support', Wels *ffon* 'staff' (Celtic < **spondo-*), Lat *sponda* 'bedstead; bed', ON *spánn* 'wood chip', OE *spōn* 'sliver, chip, shaving' (> NE *spoon*), OHG *spān* 'wood chip' (the Gmc forms as if < **spēn-* whose vowel is not well-explained), Grk *σφήν* 'wedge', (Hesychius, Doric?) *σφάνιον* 'bed, couch'. Distribution indicates a word at least of the west and center of the IE world. A related form **spḁ$_a$-dh-eh$_a$-* yields ON *spaði* 'spade', OE *spadu* 'digging tool, spade' (> NE *spade*), Grk *σπάθη* 'flat blade'.

plut- 'plank'. [*IEW* 838 (**plouto-*)]. Lat *pluteus* 'shed, penthouse; permanent breastwork; shelf, desk' (i.e., 'anything made out of planks') (< **pluteịos* 'made out of planks'); with full grade **ploutos*: ON *fleyðr* 'rafter', Lith *plaũtas* 'plank', Latv *plauts* 'wall-plank'. Northwestern regionalism in late IE.

su̯el- ~ *sel- 'plank, board'. [*IEW* 898–899 (**sel- ~ *su̯el-*); Wat 68 (**swel-*)]. From **su̯el*: ON *syll* (< **sulịom*) ~ *svill* (< **su̯elịeh$_a$*) 'doorsill, threshold', (pl.) *svalar* 'arcade', OE *syll* (< **sulịom*) 'doorsill, threshold' (> NE *sill*), OHG *swelli ~ swella* 'doorsill, threshold', Grk *σελίς* 'plank', *σέλμα* 'beam', (Homeric) *ἐύσσελμος* 'well-benched; well-decked (of a ship)' (the connection of these Greek forms seems clear but the appearance of PIE **su̯-* as Grk *-σσ-* is not altogether expected); from **sel-*: OE *selma ~ sealma* 'bed' (< *'bedstead'), Lith *súolas* 'bench', *silė* 'trough', Latv *sile* 'trough', Grk (Hesychius) *ἕλματα* (pl.) 'planking, decking'. Perhaps Alb *gjollë* 'a slab on which salt for livestock is placed, a salt-lick' belongs here (if < **sēleh$_a$-*) rather than taking it as a derivative of **sal-* 'salt'. The variation between **su̯el-* and **sel-* is not well-explained but nonetheless we have evidence for a word of the west and center of the IE world.

See also House; Shield. [A.D.V.]

PLANTS

The PIE speakers undoubtedly knew and named many plant species; however, only a small number of names for plants are reconstructible. As PIE speakers moved into new areas, new environments brought new plants (or new varieties of old ones) and the disappearance of familiar plants. Names for new plants and varieties come from new descriptive phrases or by borrowing from other languages. Plants that tended to keep their IE names were those which were ecologically salient, especially food plants and trees.

The variety of plants known across Eurasia is so enormous that it would be futile to assemble all of the plant names possibly known to the earliest IE groups. On the other hand, there is at least some evidence of the types of plants exploited and presumably known and named by prehistoric populations across Eurasia. These may be recovered from archaeological excavations in the form of well preserved seeds (from waterlogged deposits such as obtain in lakeside settlements in Alpine Europe) or the far more available evidence of carbonized, i.e., charred, seeds which may be found in most environments. Moreover, the impressions of seeds may also be found on the surface of prehistoric pottery and their characteristic imprints can be identified to the level of genus or possibly species. Another source of palaeobotanical information derives from pollen which, in certain environments, may be very well preserved and provide evidence not only for the existence of various plants but also changes in their abundance through time. As the IE homeland has been variously placed in the region of Anatolia, southeast Europe,

central Europe, northern Europe, and the steppe and forest-steppe region north of the Black and Caspian Seas, one may obtain from the reports a brief checklist of the commonest plants that have been recovered from archaeological sites of the Neolithic and Copper Age, the period of or immediately preceding the expansion of the IE language family. As with the lexical evidence, the greater majority of the plants recovered are varieties of *Cerealia*. But a general survey of the main European and southwest Asian crop plants does indicate something of the breadth of the elements present or missing from our reconstructions of the PIE botanical vocabulary.

CHENOPODIACEAE

Two main plant groups belong to the *Chenopodiaceae* which may have been known to the earliest IE communities. The first genus is the sugar beet (*Beta vulagaris*) which is found exclusively in Europe. Although it was exploited as a potherb and as fodder in the Greek and Latin worlds, its presence in earlier sites appears to be minimal and it is not listed as one of the plants recovered from Swiss lakeside sites which offer by far the largest roster of Neolithic and Eneolithic plant remains. On the other hand, *Chenopodium album* (goosefoot), was widely found across Europe and clearly exploited since the Mesolithic (in the New World it is the ancestor of quinoa, one of the primary plants of early Peruvian agriculture). However, the *Chenopodiaceae* do not appear to be a part of the early IE lexicon.

COMPOSITAE

Among the *Compositae*, it is at least remotely possible that some early IE communities may have become acquainted with the safflower (*Carthamus tinctorius*) and lettuce (*Lactuca sativa*) which were both domesticated in the Near East, particularly in Egypt. The latter spread through the Mediterranean and was extensively employed among the ancient Greeks and Romans.

CRUCIFERAE

It is with the *Cruciferae* that we at least encounter some of the plants that show some interstock linguistic cognates. The turnip (*Brassica campestris*) is indicated by _*rēpéh$_a$-_ ~ _*rāpéh$_a$-_, a culture word that appears in Italic, Germanic, Baltic, Slavic and Greek. It was widely found over Europe and recovered from Neolithic deposits in the Swiss lakeside sites. It was initially grown for its oil (rape seed) and the edible turnip is a relatively recent development. There is also an early term for the cabbage/kale/cauliflower (*Brassica oleracea*) whose domestication is normally attributed to various regions of the Mediterranean. The IE _*kaulós_, attested in Latin, Greek and Hittite poses some problems as the word may have derived from an IE word meaning 'stalk' and is, therefore, less easily derived from some non-IE Mediterranean source. The dates of its earliest domestication are unknown although kale, for example, is attested in Greece *c* 600 BC. Mustard (*Brassica nigra*) is generally regarded as a cultigen derived from Anatolia-Iran but it is recorded already from Neolithic levels in Alpine Europe. There does not appear to be any name for this plant of IE antiquity nor for the radish (*Raphanus sativa*), although the latter may have been confined to Egypt and the eastern Mediterranean in earlier prehistory. Watercress (*Rorippa nasturtium-aquaticum*), well represented in early Irish literature and also employed as a medicinal plant in the classical world, is similarly absent from the IE lexicon.

GRAMINEAE

The *Gramineae* (grasses) as they comprise also the cereals are the primary focus of the reconstructed botanical lexicon. The variety of different cereals is in no way matched by the variety of IE terms and we are generally left in some doubt as to which specific variety of wheat or barley was being referred to. For example, the range of terms for 'wheat' only includes _*puh$_x$rós_ and possibly _*sepit_ although the types of wheat widely found over all perspective IE homelands comprise at least *Triticum monococcum* (einkorn), *Triticum turgidum* (Emmer, durum), and *Triticum aestivum* (bread wheat, spelt). On the other hand we have an abundance of terms for 'barley' (_*ĝhrésdh(i)_, _*h$_2$élbhit_, _*bhárs_, and _*meig(h)-_) although there are only two main types (*Hordeum distichum* and *Hordeum hexastichum*). However, distinctions may have also been made as to whether the different varieties were hulled or free-threshing. There are also a considerable number of terms for 'grain' (_*ses(i̯)ó-_, _*i̯éu̯os_ ~ _*i̯éu̯om_, _*ĝr̥h$_a$nóm_, _*dhoh$_x$néh$_a$-_, _*dŕ̥h$_x$u̯eh$_a$-_ and perhaps _*h$_2$ed-_) which may conceal a more specific original sememe. There are geographically restricted terms of some IE antiquity for oats (*Avena sativa*), i.e., _*h$_a$eu̯is_ and rye (*Secale cereale*), i.e., _*rughis_ and _*h$_2$éreh$_a$-_. On the other hand, although millet (*Panicum miliaceum*) is relatively widespread in Eurasia from the Neolithic period onwards, we appear limited to a rather banal derivative, _*melh$_2$-_, based on the word for 'grind' and confined to several European languages and a Latin-Iranian isogloss built on _*pano-_. Finally, there are a variety of temperate grasses such as meadow fescue (*Festuca pratensis*), tall fescue (*Festuca arundinacea*), timothy grass (*Phleum pratense*) and smooth brome (*Bromus inermis*) which should have drawn the notice of early farmers in Europe as they colonized deforested areas and became abundant enough to serve as animal fodder. Hints of these in the IE lexicon occasionally occur, e.g., OPrus *pure* 'brome-grass' from _*puh$_x$rós_ which in many other IE stocks is translated 'wheat'.

LEGUMINOSAE

Along with cereals, legumes were the other main component of the 'Neolithic package' of domesticated plants that spread across Europe from southwest Asia. The two principal early legumes were the pea (*Pisum sativum*) and the chick-pea (*Cicer arietinum*). Although these words have some antiquity among the IE stocks, their distribution does not support their ascription to PIE status. The name of the 'pea', for example, may be reconstructed as _*h$_1$ereg^{w}o-_ but it is

only attested in Italic, Germanic and Greek and at least one of the stocks reflects a borrowing; in fact, the word itself has often been presumed to be a late loan into several of the IE stocks from some Mediterranean source. Its linguistic ancestry notwithstanding, the domestic pea was so widely known across Eurasia in the Neolithic that it is very difficult to imagine an IE homeland in which it would not have been known. On the other hand, the word for chick-pea, **k̂ik̂er-*, is confined to Mediterranean languages (Latin, Macedonian and Armenian) and was also geographically circumscribed to southern Europe, at least during the Neolithic. A third legume, the field or broad bean (*Vicia faba*) is attested in the west and center of the IE world (Italic, Germanic, Baltic, Slavic) as **bhabheh$_a$-* and in Albanian and Greek under the form of **bhak̂o/eh$_a$-*. A domesticate of southern Europe, it probably did not appear among the ancestors of the northwest Europeans until the third or second millennium BC. The vetches, both common vetch (*Vicia sativa*) and bitter vetch (*Vicia ervilia*), as well as the grass pea (*Lathyrus sativus*) are attested archaeologically among Neolithic cultures of Anatolia and southeast Europe with some extension into central Europe but other than the occasional transference of another IE term to indicate one of these plants, e.g., Lat *ervum* 'vetch' (when the other cognates indicate the 'pea'), there is no evidence for IE antiquity for any of these crops. Although more widely dispersed and associated with the initial expansion of domestic cereals from southwest Asia, the lentil (*Lens culinaris*) is also unretrievable from the IE lexicon although it was likely to have been known to early IE speakers.

Liliaceae

Two words relating to the *Liliaceae* (onions, garlic, and leaks) appear to be of some IE antiquity. An early **krémh$_x$us* '(wild) garlic' would appear to refer to either *Allium sativum* or *Allium ursinum* while **ālu-* is even more unspecific as it refers to some esculent root with the more precise meaning of 'garlic' in Lat *ālium* ~ *allium*. None of these are widely found and their area of domestication, like that also of *Allium cepa* (onion), is generally thought to lie on either the northeast fringe of southwest Asia or perhaps further north in Central Asia or Afghanistan. Garlic is believed to have been domesticated by *c* 2000 BC in Mesopotamia and earlier in Egypt.

Liniaceae

A word for 'flax' (**linom*) is confined to the IE stocks of northwest Europe (Celtic, Italic, Baltic, Slavic, possibly Germanic) and Greece. Flax (*Linum usitatissimum*) was domesticated quite early in southwest Asia and is found on Neolithic sites at least from central and northern as well as southeast Europe but is not recorded until quite late in the regions north of the Black Sea.

Moraceae

Hemp (*Cannabis*) is found from western Europe to Central Asia (and beyond into China where it was the principal fibre plant) and is likely to have been known to early IE speakers either in their homeland (no matter where situated) or during their expansions. Lexically, however, the only reconstructed term, **kannabis* is a culture word borrowed between various IE stocks, presumably at some later date after their formation.

Other forms of *Moraceae* such as the fig (*Ficus carica*) are confined to southwest Asia and Greece in the Neolithic and do not appear to have any great IE lexical antiquity (Lat *fīcus*, Grk *σῦκον*, and Arm *t'uz* are all believed derived from some common "Mediterranean" source). The cultivation of hops (*Humulus lupulus*) seems to date no earlier than the Middle Ages and this species lacks any obvious lexical antiquity among the IE stocks.

Rosaceae

The *Rosaceae* comprise a large number of plants, bushes and trees with edible fruits and berries that were clearly exploited over broad areas of Europe and into parts of Asia since the Neolithic. But other than the apple, almost all others, irrespective of their distribution or the antiquity of their exploitation, are with only great difficulty ascribable to IE antiquity or, if there are cognate forms, their original meaning is apparently beyond recovery. Generally, forms such as **h$_a$óǵeh$_a$-*, **h$_x$óiu̯o/eh$_a$-*, and **sróh$_a$gs*, all '± berry, fruit' must do for a wide variety of edible fruits. For example, one of these forms may conceal the word for 'strawberry' as it was widely dispersed since the Neolithic in the wild state over central and northern Europe, i.e., those regions where we might expect some form of northwest isogloss. From its quantity on archaeological sites of all periods, it was clearly collected since at least the Neolithic but cultivation did not take place until about the fourth century AD. A very similar situation obtains for raspberries and blackberries (*Rubus*) for which we can reconstruct **mórom*. Grouped here are also several important fruit trees such as *Prunus domestica* (plum), cherries (*Prunus avium* and *Prunus cerasus*), and the pear (*Pyrus*). Pips of most of these are known from Neolithic sites of temperate Europe although deliberate domestication does not usually occur until Roman times. These provide further examples of food resources, probably exploited by the ancestors of at least some IE stocks, but which seem to lack any widespread set of cognate terms. Only the pear (Lat *pirum*, Grk *ἄπιον*) seems to have a common, presumably non-IE source.

Umbelliferae

The main domestic variety of the *Umbelliferae* that offers a name of some antiquity is the **mr̥k-* '± carrot' with cognates in Germanic and Slavic indicating the carrot and an obscure term in Greek indicating a wild vegetable. The natural distribution of the carrot is from southern, primarily Mediterranean, Europe eastwards to Iran and Afghanistan although it is also found often on Swiss Neolithic and early Bronze Age lakeside dwellings. The origin of the domestic carrot has been seen either in or around Afghanistan and the spread of the domestic

carrot to the west occurred during the medieval period, arriving in Turkey by the tenth century and Spain by the twelfth century AD. From this it is evident that the proto-form among the IE stocks referred to a wild plant.

VITACEAE

Two possible words referring to the 'vine' or 'grape' are known from the early IE lexicon. The primary term is **u̯óinom* which is attested in Italic, Albanian, Greek, Armenian and Anatolian. The precise referent has always posed some problem and it may refer to the vine, i.e., *Vitis vinifera* which, in the wild state, could be found during the Neolithic from Iberia east to beyond the Caspian Sea and as far north as southern Britain and even southern Sweden. The domestic grape, on the other hand, appears in the Near East around the fifth or fourth millennium BC and in southeast Europe by the third millennium. A more poorly represented and phonologically problematic word is **tris-* which yields the meaning of 'vine' in Slavic and Greek and more generalized meanings ('seedling, offshoot') in Albanian.

PAPAVERACEAE

The one well-known representative of the *Papaveraceae*, the poppy (*Papaver somniferum*), is at least known in late IE guise as **meh$_a$k-* where it is found in Germanic, Baltic, Slavic and Greek. Unlike most of the domesticates, the wild poppy (*Papaver setigerum*) is native to the western Mediterranean and it is found as a crop weed from Iberia to the Black Sea but is absent from Greece and southeast Europe until the early Bronze Age, i.e., *c* 3000 BC. Its place of domestication has been sought in the west Mediterranean.

See also AGRICULTURE; ANGELICA; BARK¹; BEAN; BERRY; BRANCH; CHAFF; CHICK-PEA; FEED; FLAX; FLOWER; FORK (OF TREE); GRAIN; GRASS; HELLEBORE; HEMP; HENBANE; KNOT²; LEAF; MISTLETOE; MOSS; MULBERRY; NETTLE; PEA; POPPY; REED; SAP; SHOOT; SPLINTER; STALK; THORN; TREE; TREES; VEGETABLES; WINE. [D.Q.A., J.P.M.]

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PLAY

****loid-*** 'play, jest'. [*IEW* 666 (**leid-*); Wat 36 (**leid-*)]. OLat *loidus* ~ *loedus* 'game', Lat *lūdus* 'game', *lūdō* 'play', Grk (Hesychius) *λίζει* (< **lidi̯e/o-*) 'plays', *λοιδορέω* 'insult, abuse'. Though attested in only two stocks, it represents the only possibly reconstructible word for 'play' in PIE.

[M.N.]

PLEASE

****pleh$_a$k-*** 'please'. [cf. *IEW* 831 (**plā-k-*); Wat 51 (**plāk-*); GI 371]. Lat *placeō* 'please, am pleasing', *plācō* 'smooth; calm, appease, pacify', TochAB *plāk-* 'be in agreement', TochA *plākäm* 'permission', TochB *plāki* 'understanding, agreement' (Tocharian nouns < **pleh$_a$kmen*). From **pleh$_a$k-* 'flat'. The presence of this verb in both Latin and Tocharian suggests that it was at least a late PIE term.

See also FAVOR; HAPPY. [D.Q.A.]

PLOW

****h$_a$érh$_3$i̯e/o-*** 'plow'. [*IEW* 62–63 (**ar(ə)-*); Wat 3 (**arə-*); GI 593–594 (**har-*); Buck 8.21; BK 400 (**ħar-/*ħər-*)]. MIr *airid* 'plows', Wels *arddu* 'plow', Lat *arō* 'plow', ON *erja* 'plow', OE *erian* 'plow' (> NE *ear*), OHG *erran* 'plow', Goth *arjan* 'plow', OPrus *artoys* 'farmer', Lith *ariù* 'plow', OCS *orjǫ* 'plow', Grk *ἀρόω* 'plow', TochAB *āre* 'a plow'. Widespread and old in IE. Note the widespread derivative **h$_a$érh$_3$trom* 'plow': MIr *arathar* 'plow', Wels *aradr* 'plow', Lat *arātrum* 'plow', ON *arðr* 'plow', Lith *árklas* 'plow', Grk *ἄροτρον* 'plow', Arm *arawr* 'plow'. It has often been suggested that Hit *hars-* ~ *harsiya-* '± till the earth' belongs here (if so the root would be **h$_2$erh$_3$-*), reflecting an extended PIE **h$_2$erh$_3$-s-*. On the other hand, the Hittite word has also been taken as a borrowing from some Semitic source, e.g., Akkadian *harāšu* 'plant', *harāšu* 'dig a furrow', or western Semitic **haraš-* (= Akkadian *erēšu*) 'plow'. If the word is inherited, as ultimately seems more probable, it greatly strengthens our ability to reconstruct plow agriculture to PIE.

****u̯og^{w}hnis*** 'plowshare'. [*IEW* 1179–80 (**u̯og^{u}hni-s*); Wat 78 (**wog^{w}h-ni-*); GI 595 (**wog^{ho}ni-*)]. Lat *vōmis* 'plowshare', ON *vangsni* 'plowshare', OHG *waganso* 'plowshare', OPrus *wagnis* 'coulter', Grk *ὀφνίς* 'plowshare'. At least a word in the west and center of the IE world.

****mat-*** 'hoe, plow'. [*IEW* 700 (**mat-*); Wat 39 (**mat-*); Buck 8.28]. Lat *mateola* 'hoe', OHG *medela* (< **mátileh$_a$-*) 'plow', OCS *motyka* 'hoe, mattock', NPers *āmāj* (< **-mātač-*) 'plow', OInd *matyá-* 'harrow'. The obviously related OE *mattoc* 'mattock' (> NE *mattock*) is usually taken as a borrowing from a late Lat **matteuca*. The geographical distribution of the reflexes of this word strongly suggests PIE status. The semantic range of the cognate terms is probably explainable by reference to the very early systems of breaking the soil either by hand with a stone hoe or antler mattock which might also serve to be dragged by traction as a primitive plow.

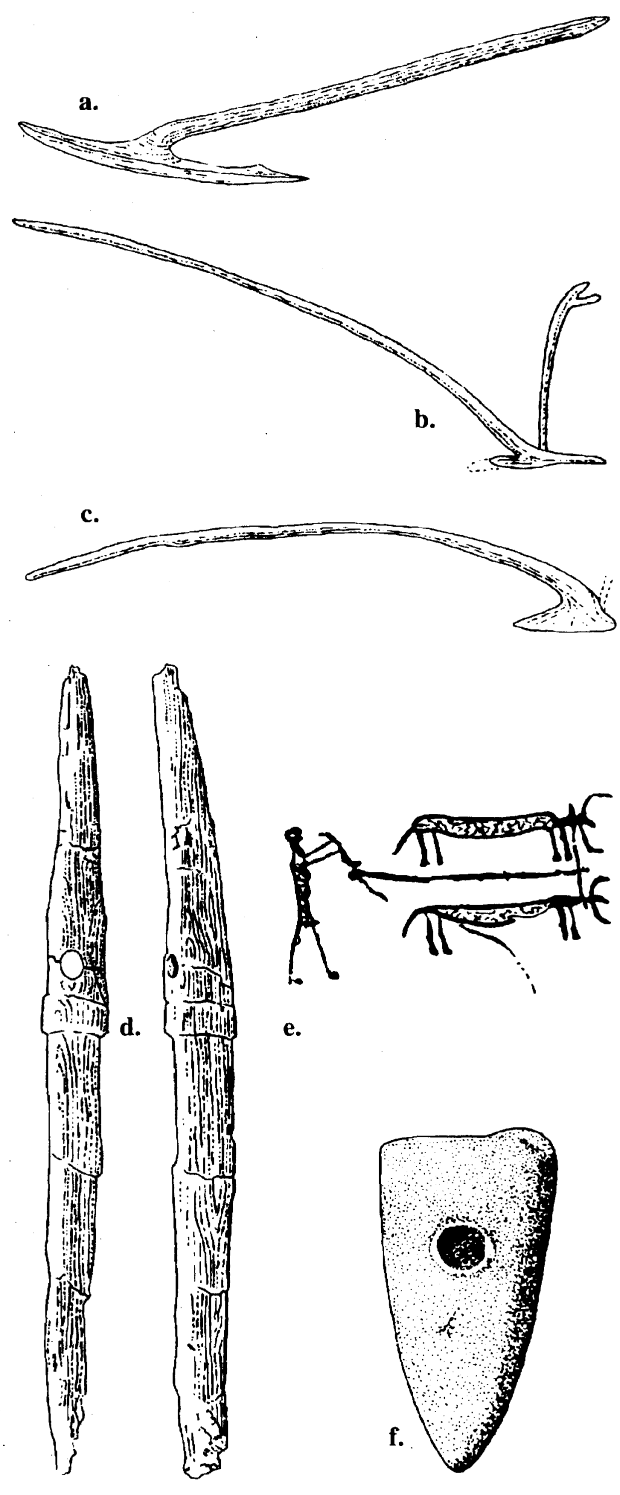
****h$_{1/4}$okéteh$_a$-*** 'harrow, rake'. [*IEW* 22 (**ok̂etā*); Buck 8.28]. Wels *oged* 'harrow', Late Lat *occa* (< **ot(i)ka* < **okita*) 'harrow', OE *eg(e)ðe* 'harrow, rake', OHG *egida* 'harrow', OPrus (pl.) *aketes* 'harrow', Lith (pl.) *akė́čios* 'harrow', Latv *ecēšas* 'harrow' (the Baltic forms with *e-* have assimilated the first vowel to the second; the length of the second vowel is also secondary), Oss *adæg* (< **agæd*) 'furrow'. Related are Grk *ὄγμος* 'furrow', (Hesychius) *ὀξίνα* 'harrow', Hit *akkala-* 'furrow' or perhaps 'type of plow' (the context is ambiguous). The underlying verb **h$_{1/4}$ek-* 'rake, harrow' is seen in OE *ecgan* 'rake, harrow',

OHG *eggan* 'harrow', Lith *akėti* ~ *ekėti* 'harrow', Latv *ecêt* 'harrow'. Widespread and old in IE.

?*ĝhel- 'plow'. [*IEW* 434 (**ĝhel-*); Wat 2 (**ghel-*); Buck 8.21; BK 230 (**gal-/*gəl-*)]. Lith *žúolis* 'sleeper, tie', Arm *jlem* 'plow', OInd *halá-* 'a plow'. The Old Indic word is attested only rather late (in the epics). Other than that, the apparent connection of at least the Armenian and Old Indic would suggest a word of the center and east of the IE world.

Archaeological Evidence

The plows reflected in the linguistic evidence would generally have been metal plows. The earliest of these metal plows appears in the Near East toward the end of the second millennium BC and in Anatolia by *c* 900–700 BC. Metal plows appear subsequently in Italy by *c* 600 BC and among the Celts by c 500-400 BC. But the original PIE referents would surely have been wooden plows (with stone shares). Even the earliest wooden plows had a marked impact on agricultural production in that they were capable of increasing the cultivated area by three times as well as permitting the expansion of agriculture onto soils which simple hoe-agriculture would have found too difficult. The earliest evidence for the plow is generally set to the Near East in about the sixth millennium BC; later evidence for the plows are to be found in the pictographic scripts of the Near East, both at Uruk in Mesopotamia and in proto-Elamite layers in Iran, that would date to *c* 3500–3000 BC. These depict a two-handled plow with a composite draught pole while the earliest evidence for plows in Europe tend to reflect single-handled plows, i.e., crook ards. While one might expect that these simple plows would have served more as seed drills than for turning the soil, there is evidence of asymmetrical plow-marks already from the fourth millennium BC which suggests that the tip of the plow could be angled to turn the soil as well as scour it. Evidence for the earliest appearance of the plow in Europe rests primarily on these chance discoveries of plow-marks on prehistoric sites and the actual remains of plows in water-logged contexts. There is clear evidence for scratch marks in the soil, made by primitive plows, from at least Britain to Poland in the period *c* 3500–3000 BC while the earliest actual remains of plows are known from *c* 2300–2000 BC (the earliest identified European plow derives from Lavagnone, Italy). That plows may have predated the late fourth millennium BC has been argued on the basis of three further possible lines of evidence. The first of these are polished stone adzes which appear in the Linear Ware and other Neolithic cultures which probably served primarily for working wood but which have also been interpreted by some as plowshares. A very large perforated stone 'ax' recovered from a site of the Lengyel culture has also been regarded as a plowshare. In Brittany, megalithic art of the fourth millennium BC also depicts what have been interpreted as 'ax-plows'. A final source of evidence is to be seen in the splayed phalanges of cattle, which suggests their use in traction. Such evidence has been recovered from the Balkans from the period of the



Plow a. Hand ard (Switzerland, fourth millennium BC); b. Crook-ard (Germany, second millennium BC), c. Crook-ard (Poland, second millennium BC); d. Ard from Yamna burial; e. Plowing scene on rock art (Italy, *c* 3000 BC); f. Stone shaft-hole ax (or plowshare?) from Neolithic Hungary.

Vădastra culture, i.e., *c* 4500 BC. The presumption here is that animal traction was earliest associated with plowing, while its use in drawing wagons began in the mid-fourth millennium. Moreover, a simple "rope traction ard", which could be pulled by farmers without recourse to oxen, may also have preceded the plow and several have been recovered from Neolithic contexts in Denmark.

The use of the plow, which seems clearly attested across the early IE world and hence is attributed to the PIE community itself, also bears social implications. The earliest agriculture probably did not involve the use of the plow but merely digging sticks or hoes, tools which are often found in the ethnographic record to correlate with women carrying out the bulk of agricultural chores and hence matrilineal systems of inheritance which generally involved the lineage rather than the individual family as owner. In plow-agriculture, the role of the male is commonly found to become more important and the inheritance system tends to patrilineal descent and the land itself becomes an inheritable commodity. Both the evidence of the Indo-European kinship nomenclature and the existence of *$h_a$érh$_3$i̯e/o- 'plow' suggest that the earliest Indo-Europeans correlate with this latter form of plow-agriculture rather than that of digging sticks which is presumed for the earliest agriculturalists in the Near East and Europe.

See also AGRICULTURE; BRANCH; FIELD; FURROW; TOOL. [D.Q.A., J.P.M.]

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POET

***kāru-** 'one who sings or praises, poet'. [*IEW* 530 (*kāru-); Wat 27 (*kāru-); GI 177 (*k^{h}erH-)]. Grk *κήρυξ* (Doric *κάρυξ*) 'herald', OInd *kārú-* 'one who sings or praises, poet'. From *kar- 'praise'. The semantic relationship whereby a word for 'herald' in Greek is equivalent to 'poet' in Old Indic requires some explanation. Indic literature provides some evidence that the *kārú-* wandered from one client to another which could have resulted in a dual role, one that not only involved the artistic creation of verse but also a means of conveying messages, i.e., he may also have carried out some of the duties of a herald.

***u̯ōt-** 'seer, poet'. [*IEW* 1113 (*u̯āt-), Wat 78 (*wet-); GI 699 (*wāt^h-)]. OIr *fāith* 'seer', Gaul *οὐάτεις* 'seer', Lat *vātēs* 'see, poet', ON *ōðr* 'poetry; madness', OE *wōþ* 'song, poetry', *wōd* 'madness' (> archaic NE *wood* 'mad'), OHG *wuot* 'madness', Goth *wōds* 'mad, insane'; cf. also Wels *gwawd* 'poetry'. The meaning of a divinely inspired seer is well enough attested between Celtic and Italic although its extended meaning 'poet' does not occur in Latin until about the first century BC. A lengthened grade derivative of PIE *u̯et- 'blow' seen in Grk (Hesychius) *ἄετμα* 'flame of a fire', *ἀετμόν* 'spirit', *ἀΰτμή* 'breath', Av *aipi-vat-* 'blow, inspire', OInd *ápi-vat* 'blows upon, fans; blows in, inspires'. The Greek words suggest we should reconstruct *h_au̯et- 'blow' and thus *h_au̯ōt- for 'seer, poet'. As a word for a 'poet' it still appears confined to the extreme west of the IE world.

??*g^{w}r̥h$_x$-dhos 'poet' (< *g^{w}r̥h$_x$-dheh$_1$- 'put praise'). [*IEW* 478 (*g^{u}er(ə)-); Wat 25 (*g^{w}erə-); BK 364 (*q'^{w}ur-, *q'^{w}or-)]. OIr *bard* 'bard', Wels *bardd*, Gallo-Lat *bardus* 'bard'. Attested nominally only in Celtic and verbally only in Indo-Iranian, i.e., Av *garəm dā-* 'give praise', OInd *giraṃ dhā-* 'give praise'. The forms, although composed of PIE words, would appear to be innovations in each of their respective areas.

See also POETRY; PRAISE; PRIEST; SACRED. [D.Q.A.]

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POETRY

Although no reconstructed word survives to designate 'poetry' in PIE, its existence is unchallenged as the possession of a poetic tradition would appear to be a near cultural universal and is certainly found among all the earliest attested IE stocks. Furthermore, although we may reconstruct only two words for 'poet', *kāru- (a late IE isogloss joining Greek and Indo-Aryan) and *u̯ōt- (a word of the extreme west of the IE world), nevertheless most early Indo-European stocks reveal a class of men who served as poets or priests skilled in the construction of verse. The work of these earliest poets, whether known from Ireland, Greece or the old Indo-Iranian world, was exclusively oral rather than written and sources describe the many years required, for example, by an Irish druid in the learning of the vast corpus of poems, metrical rules, and other prerequisites of a poet. There is also some evidence that the craft of poetry was treated as a specialist skill, like any other craftworker, and may have been lodged with particular families. The authors of the hymns of the *R̥gveda*, for example, can be assembled in familial relationships with one another, there were Greek confraternities of poets, and certain Irish families such as the O'Higgins or O'Mulconrys maintained family traditions of poets. Indeed, early Irish tradition required that one should belong to a poetic family for at least three generations in order to be regarded as a true poet.

The poet as a craftsman can be seen in the preservation of metaphorical expressions that describe how the poet created his poetry. Both Greek and Indo-Iranian provide evidence of a PIE *u̯ék^{w}os teḱs- 'fashion speech' (Grk *ἐπέων τέκτονες*, Av *vačas-tašti-*, OInd *vácas- takṣ-*) where the meaning of the verb *teḱs- is extended beyond the semantic sphere of building. Thus, there are verses in the *R̥gveda* (*RV* 5.2.11) where we read 'as a skilled craftsman makes a chariot, I, a devout worshipper, have composed this hymn for you, O mighty one'. And in Welsh, the poet may be termed the 'carpenter of the song'. In addition to the image of a 'word

carpenter' (cf. also in NE *word-smith*) we also find that of the weaver of verse employed as well, where PIE **u̯ebh-* 'weave' underlies OE *wordcræft wæf* 'he wove poetry', Grk **μύθους καὶ μήδεα πᾶσιν ὕφαινον** 'they have woven words and thoughts for all', and in Avestan the root for 'weave' (*vaf-*) can also be employed in the meaning 'to praise'. Another root indicating 'weave', PIE **u̯eg-*, underlies OIr *figid* 'weaves', seen in the expression *fáig ferb fithir* 'the master weaves the word'. Finally, the poet might be 'the maker' *par excellence* as in Greek **ποιητής** 'maker, poet, writer'.

The Proto-Indo-European poet was a professional. Whatever the exact image the poet as craftsman took, he was worthy of his hire, as the etymological comparison of OIr *cerd* 'craft; poetry' (also 'craftsman; poet') or Wels *cerdd* 'craft; poetry, poem' with Grk **κέρδος** 'gain, profit' suggests. The *R̥gveda* tells of rewards to poets such as 'two-hundred cows, four horses, and two wagons' (*RV* 7.18), a vast sum even for a king to expend. The poet was worth the expense, however, because only he, as the professional preserver of the spoken word, could provide his patron the 'imperishable fame' that was the central goal of the heroic warrior.

The creative act of the poet is generally associated with the concept of his 'seeing' or 'hearing' his verse, e.g., OInd *sa etat sūktam apaśyat* 'he saw the hymn' and the inspirer of verses, the deities, speak directly to the poet. This inspiration can be seen in Old Indic tradition, for example, where the embodiment of sacred speech, the goddess Vāc, declares that it is with her help that one 'hears what is said though not knowing it' (*RV* 10.125.4) and the common introduction to the more arcane verses of Old Irish, *co cloth nī* 'something is heard', i.e., something from "outside" inspires the poet. In this way, the poet is presented as the instrument of reception, inspired by a creative impulse that derives from outside of himself; in short, the poet is "wired into" the world of creativity.

Indo-European Metrics

The quest to reconstruct the "original" metrical system of the Indo-Europeans has extended almost to the beginnings of comparative philology, but in terms of convincing results, these have been either illusive or confined to a few interstock similarities. For example, comparison between 12-syllable Greek verse and the 12-syllable *jagatī* form of the *R̥gveda* have prompted some to postulate a PIE 12-syllable line. A comparison of the 11-syllable Greek saphic verse with the 11-syllable *triṣṭubh* form of Old Indic verse yields a PIE 11-syllable line. One can descend in length with the 10-syllable saphic form and early Slavic verse. A shorter 8-syllable line has also been attributed to PIE and this may be found in the traditions of the Romans, Balts, Slavs, Greeks, Anatolians, and Indo-Aryans. Here we find, for example, verse expressed in lines of seven or eight syllables, with a caesura dividing at 4 + 4 (or 3) or 5 + 3 syllables, e.g., the opening of the first hymn of the *R̥gveda* (*agním īḷe | puróhitam*, i.e., 4 + 4). The problem with all of these "comparisons" is that they are not in the strict sense "reconstructions" as one employs the term in the comparative method in linguistics, i.e., unlike the comparison of two cognate words, there is no guarantee that lines of poetry in two different IE stocks are necessarily "cognate" or inherited from a proto-form; other than a number of phrases we simply lack cognate lines of PIE verse in two different major language stocks.

There have been attempts to go beyond the specific to the more general in describing the main tendencies of IE oral poetry. For example, irrespective of the number of syllables, it has been suggested on the basis of Greek and Old Indic poetry that there are at least stable patterns such as a constant number of syllables per line, a uniform succession of short and long syllables, a break within the longer lines of verse forms. However, even all these can be reduced to oft-observed general tendencies but not necessarily norms of their respective stocks to say nothing of PIE.

Poetic Diction

Studies of oral tradition have uncovered evidence that the poet frequently uses certain groups of word in his poetic diction that may be employed under the same metric conditions. These phrases, such as the frequent reference to Agamemnon in the *Iliad* as the **ἄναξ ανδρῶν** 'lord of men', form a specialized poetic vocabulary or set phrases which the poet may insert whenever he requires the filling out of a particular meter. Although no single line of PIE verse has so far proven to be recoverable, there is at least a body of brief phrases or formulae that may be assigned varying degrees of IE antiquity. In general, the sources offering evidence for PIE phrases are to be found in the earliest and highest register of the poetic traditions of several IE stocks. In Germanic, this is to be found in the Old Norse Eddic poems, in Italy there is early Latin poetry and the Iguvine tablets of the Umbrians, in Greece the Homeric tradition is of primary importance although there are other sources of early Greek verse, in old Iran the *Avesta* and in India the Vedas.

Of the reconstructed PIE formulae, one of the earliest discovered and certainly among the most important are those phrases that are associated with the subject of poetry itself and are built on **k̑léu̯os* 'fame' which is derived from **k̑leu-* 'hear', indicating that 'fame' derives from that which is heard, that is, what has been related by the poets. Hence there is PIE **k̑léu̯os n̥dhgʷhitom* 'fame everlasting' (Grk **κλέος ἄφθιτον** [cf. Myc *a-qi-ti-ta* as a personal name derived presumably from something like **akʷhthito-klewejja*], OInd *śrávas...ákṣitam*; cf. OIr *clū* 'fame'). We find **k̑léu̯os* in several other recurring formulae. Not all of these have an exactly reconstructible PIE shape, but the general collocation is certain. Thus a related formula is *'famous of name' (Grk **ὀνομά-κλυτος** [cf. the personal name **'Ονυμακλέης**], OInd *śrútyam nā́ma*, TochA *ñom-kälywāts*, TochB *ñem-kälywe*); PIE **k̑léu̯os u̯éru* 'wide fame' (Gaul *Verucloetius*, Grk **κλέος εὐρύ**, OInd *urugāyám...śrávo*); PIE **k̑léu̯os még̑ha* 'great fame' (Grk **μέγα κλέος**, OInd *máhi śrávaḥ*; cf. OIr *clū mōr* 'great fame', ON *mikil frægð* 'great fame'); PIE *'having fame from

god' (Grk *Διοκλῆς*, OInd *Devásravas-*); PIE **kléu̯os u̯ésu* ~ **kléu̯os h₁ésu* 'possessing good fame' (Illyrian *Vescleves-*, Grk ***Εὐκλεής***, OInd *Suśráva-*; cf. OIr *sochla* (< *so* +*clū*) 'of good fame', Av *vaŋhāu sravahī*) and PIE *'acquire fame' (Grk ***κλέος καταθέσθαι***, OInd *śrávaḥ dhā-*). One could also acquire a bad repute and terms for this may also be extended into IE antiquity, e.g., **dus-kleu̯es-*'having bad repute' (Grk ***δυσκλεής***, Av *duš-sravahyā-*).

As we have seen, the 'fame' acquired or celebrated is generally held to have concerned the heroic deeds of warriors, i.e., PIE **kléu̯os h₂n̥rróm* 'fame of (real) men' (Grk ***κλέα ἀνδρῶν***, OInd *śrávo...nṛṇā́m*) although the use of 'fame' was then subsequently extended to other activities in the various IE stocks. But the central theme of 'fame' is clear in the early literatures of the various IE peoples where one's 'fame' or 'name' (as the two were equivalent) was the overriding factor in heroic behavior. Thus, the Irish hero Cū Chulainn (*Tāin* 610–641), hearing that a druid had prophesied that whoever took up arms on a certain day would be short-lived but acquire great fame ('his renown [*ainmm* 'name, repute'] would be over Ireland forever and his famous tales would last forever'), himself remarks that 'provided that I be famous, it is fine with me though I be but a single day on earth'. Similarly in the *Iliad*, the Greek hero Akhilleus observes that if he stays at Troy, his homecoming will be destroyed, i.e., he will be killed, but his fame (***κλέος***) will be imperishable (***ἄφθιτον***).

The word for 'name' also provides the basis for a series of formulae that may be attributed to IE antiquity. The very act of naming is expressed in PIE **h₁néh₃mn̥ dheh₁-* 'give a name' (OCzech *dieti jmě*, Hit *lāmān dā-*, HierLuv *atamain tuha*, Av *nāmąn dā-*, OInd *nā́ma dhā-*, TochB *ñem tā-*). There is a striking Germanic-Indo-Aryan correspondence in the formula **prii̯óm h₁néh₃mn̥* 'one's own name' (OE *frēo nama* 'surname', OInd *priyáṃ ...nā́ma* 'own name'; cf. also the divine epithet *'having many names' [Grk ***πολυώνυμος***, OInd *purunā́man-*]).

More directly, indeed redundantly, we find the expression PIE **u̯ékʷos u̯ekʷ-* 'speak a word' (Grk ***ἔπος εἰπεῖν***, Av *uxdā vačā̊*, OInd *ávocāma...váca-*). The poet may also employ his skill to make 'sweet speech', i.e., PIE **su̯eh₂dú- u̯ékʷ-* (Grk ***ἡδυεπής*** ~ [Doric] ***ἁδυεπής***, Av *hvačah-*, OInd *suvacas-*)(cf. also Grk ***μελίγλωσσος***, OInd *mádhujihva-* both 'honey-tongued'). In prayer, the invocation of the priest may begin **kludhí moi* 'hear me' (Grk ***κλῦθί μοι***, OInd *śrudhí me*; cf. Messapic *klaohi* 'hear').

One phrase of poetic diction concerns the spiritual property of the hero who acquires fame. This heroic property is embedded in the concept of **menes-* 'strength', but not so much physical as mental inspiration, that motivates and enables the hero to accomplish great deeds. It can be found alone or used in such constructions as PIE **ish₁róm ménos-* 'sacred strength' (Grk ***ἱερὸν μένος***, OInd *iṣiréṇa...mánasā*) which indicates how this 'strength' is divinely inspired. Other constructions built on this word include both the positive possession of such strength, i.e., PIE **u̯ésu* ~ **h₁ésu ménos* 'good thought' (Myc [personal name] *E-u-me-ne*, Grk ***εὐμενής*** ~ ***μένος ἠΰ***, [personal name] ***Εὐμενής***, Av *vohu manah-* ~ *humanah-*, OInd *sumánas-*, [personal name] *Vasumanas-*) and its opposite **dus-menes-* 'bad thought' (Grk ***δυσμενής***, OInd *durmanás*).

Phrasal or epithetic echoes of the types of deeds one accomplished to win fame are also preserved. For example, we may reconstruct a PIE **h₂nr̥-gʷhén-* 'man-killer' (Myc [proper name)] *A-no-qo-ta*, Grk ***ἀνδροφόνος*** [epithet of Hektōr], Av *jannara-*, OInd *nr̥-hán-* [epithet of Rudra]; cf. semantically related concepts in Celtic, e.g., OIr *oirgnech* 'man-killer', an epithet of the hero Conall). One of the central deeds of the IE warrior-hero is the slaying of a serpent/dragon which is preserved in the phrase **(h₁e)gʷhént h₁ógʷhim* 'he killed the serpent' (Grk ***κτεῖνε ὄφιν*** 'he slew the serpent' [with the substitution of a different verb, though ***πέφνε ὄφιν*** with the inherited verb was surely possible, just not attested] or Hit *illuyanka kwenta* 'he killed the snake' [with a new noun]; Av *janat ažīm* '[who] killed the serpent', OInd *áhann áhim* 'he killed the serpent'); cf. OIr *gono mil* 'I slay the beast'.

Other formulae are associated with deities and the celestial world. The most famous is the epithet of the deity of the open sky, PIE **di̯éus ph₂tḗr* 'sky-father'. (Lat *Iūpiter* ~ *Iuppiter*, Umb *Iupater*, Illyrian ***Δει-πάτυρος***, Grk ***Ζεὺς πατήρ***, OInd *dyā́uṣ pitā́*; cf. Luv *tātis tiwaz* 'daddy sky', Palaic *tiyaz....pāpaz* 'sky...papa'). The concept of solar disc or wheel appears embedded in IE tradition where we can reconstruct PIE *'sun's wheel' (ON *sunnu...hvēl*, Grk ***ἡλίου κύκλος***, OInd *sū́raś cakrá-*) and there is also a clear association between the sun and horses in Greek, Avestan and Old Indic tradition. The sun is also depicted as a watcher of the affairs of humankind, i.e., PIE **seh₂u̯eli̯om...spoḱom* 'sun...watching' (Grk ***Ἠέλιον...σκοπὸν***, OInd *sū́ryaṃ...spáśam*) and this metaphor of the 'sun' as a great 'eye' is retained in OIr *sūil* 'eye' (etymologically 'sun'). A deity may be a PIE **déh₃tōr u̯eséu̯ōm* 'dispenser of goods' (Grk [voc.] ***δῶτορ ἑάων***, Av *vohunąm dātārō*, OInd *dātā́ vásūnām*). There is evidence that the goddesses might be given the epithet PIE **dhug(h₂)tḗr di̯u̯ós* 'sky daughter': Lith *diēvo duktė̃* 'Saulytė' (daughter of the sky), Grk ***θυγάτηρ Διός*** 'sky-daughter' (epithet of Aurora, the dawn), OInd *duhitā́ diváḥ* 'sky-daughter'; cf. also Lith *sáulės duktė̃* 'sun daughter', Latv *saules meita* 'sun maid', OInd *duhitā́ sū́ryasya* 'daughter of the sun'. Another epithet of a deity is PIE **h₁isu̯ó-ĝhesr̥-ih₂* 'having an arrow in the hand' (Grk ***ἰοχέαιρα*** [epithet of Artemis], OInd *íṣu-hasta-*).

There are a number of formulae of poetic speech employed to describe both the earth and life. The earth itself would appear to have born the epithet 'broad' and hence we find the formula PIE **dhĝhóm- pl̥th₂ú-* 'earth-broad' (Grk ***εὐρεῖα χθών***, Av *ząm pərəθwīm*, OInd *kṣā́...pr̥th(i)vī́m*; cf. ON *fold*, OE *folde* [< **pl̥th₂-eh₂-* 'broad'] 'earth'). The earth might also be described as 'dark', i.e., *'dark earth' (OIr *domun donn*, Hit (abl.) *dankuiaz tagnaz*). Human settlement might also be described as 'broad', e.g., PIE **u̯r̥rú sédos* 'broad seat/place' (Grk ***εὐρυεδής***, OInd *urú...sádas*). The formula which would

embrace all living beings appears to be PIE *'bipeds and quadrupeds' (Umb *dupursus peturpursus*, MPers *dōpāδān ...čahārpāδān*, OInd *cátuṣpadām...dvipádām*) or the semantically similar PIE **u̯ih$_x$rō-peḱu̯ō* 'man and beast' (Umb *ueiro pequo*, Lat *pecūdēsque virōsque*, Av *pasu vīra*). This latter expression has been regarded as a component of a still longer verb phrase **u̯ih$_x$rons peḱu(e)h$_a$ peh$_2$-* 'protect men and livestock' (Lat *pastores pecuaque salua seruassis*, Umb *ueiro pequo...salua seritu* [where the Italic dialects have replaced **peh$_2$-* 'protect'], Av *θrāyrāi pasvå vīrayå*, OInd *trāyántām...púruṣam páśum* [where **peh$_2$-* has been replaced by **terh$_2$-* 'protect' in both languages and Old Indic has innovated on the word for 'man']).

The concept of belief is embraced in the formula **ḱred-dheh$_1$-* 'believe' (< *'put heart') (OIr *creitid*, Lat *credō*, Hit *k(a)ratan dai-*, Av *zrazdā-*, OInd *śraddhā́*). Other actions with a poetic resonance include PIE **u̯r̥h$_x$dhu̯ós meiĝh-* 'standing upright' (Grk *ὀρθὸς στῆναι*, OInd *ūrdhváḥ sthā-*), here applied to the hero or deity although we also have *'urinate upright' (Grk *ὀρθὸς ὀμείχειν*, OInd *mekṣyāmi ūrdhváḥ*). Another expression of at least late PIE date is **dl̥ghó-h$_a$oi̯u* 'having a long life' (Grk *δολιχαίων*, Av *darəgəm āyū*, OInd *dīrghā́yu-*).

With reference to animals, horses and dogs were singled out for special poetic treatment. We find, for example, PIE **h$_1$éḱu̯ōs h$_x$eh$_3$ḱeu̯es* 'swift horses' (Grk *ὠκέες ἵπποι*, Av *āsu.aspa-* 'possessing fast horses', OInd *āśváśya-* 'possessing fast horses') and it is frequently suggested that the very word for horse derives from the adjective 'swift'. With a different root, the same concept is to be found in PIE **h$_2$r̥ĝrōs h$_1$éḱu̯ōs* 'swift horses' (Grk *ἵπποι...ἀργοί*, OInd *r̥jrā́s...áśvās*; cf. Av *ərəzrāspa-* 'who has fast horses'), PIE **h$_1$su-h$_1$éḱu̯os* 'having good horses' (Grk *εὔιππος*, Av *hvaspō*). The dog is clearly associated with the defense of flocks, e.g., PIE **peḱu-seru̯os* 'guarding livestock' (Lat *servat pecus*, Av *pasuš.haurva-*) and, like the horse, was also prized for its swiftness, i.e., PIE **h$_2$r̥ĝrós ḱ(u)u̯ón* 'swift dog' (Grk *κύνας ἀργούς*, OInd *R̥jíśvan-* 'having a fast dog'; cf. also *Ἄργος*, the dog of Odysseus).

Finally, we uncover chance reflexes of formula that describe practical pursuits, e.g., PIE **dhéiĝhti péiĝti (-k^{w}e)* 'shapes and paints' (Lat *pictis fictis*, TochA *tsekeṣi pekeṣi*).

See also NAME; POET; PRAISE. [J.P.M.]

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POINT

h$_a$érdhis 'point'. [*IEW* 63 (**ardh-*)]. OIr *aird* 'point; direction', ON *erta* (< Proto-Gmc **artjan-*) 'to goad', Grk *ἄρδις* 'arrowhead'; cf. OInd *ali-* (< **ardí-*) 'bee' (< *'having a point'). The geographical distribution suggests PIE status.

bhr̥stís 'point'. [*IEW* 109 (**bhr̥sti-*); Wat 5 (**bhar-*); BK 4 (**bar-/*bər-*)]. OIr *barr* 'point, tip', Lat *fastīgō* 'make pointed, bring to a point', *fastīgium* 'top of the gable, gable end, pediment', ON *burst* 'bristle', OE *byrst* 'bristle' (> NE *bristle*), OHG *burst ~ borst* 'bristle', Rus *boršč* 'hogweed', OInd *bhr̥ṣṭí-* 'point'. Widespread and old in IE.

See also BARLEY; SPEAR. [D.Q.A.]

POISON

u̯íss ~ *u̯ī́s (gen. ***u̯isós***) 'poison, poisonous liquid (e.g., snake venom or poisonous sap)'. [*IEW* 1134 (**u̯īso-s*); Buck 4.89]. MIr *fī* 'poison', Lat *vīrus* 'potent liquid, poison, venom', Grk *ἰός* '(organic fluid) poison; stagnant smell and taste', Av *viš(a)-* 'poison', OInd *viṣá-* 'poison', TochA *wäs* 'poison', TochB *wase* 'poison' (Toch < **u̯iso-*). From **u̯eis-* 'flow (slowly), ooze (out)', other derivatives of which appear in Wels *gwyar* 'blood', ON *veisa* 'swamp', OE *wāse* 'mud'.

See also FLOW. [D.Q.A.]

POLECAT

keḱ- 'polecat (*Mustela putorius*) (?+ 'marbled polecat (*Vormela peregusa*)'. [*IEW* 543 (**keḱ-*)]. Lith *šė̃škas* 'polecat', Latv *sesks* 'polecat', OInd *káśa-* 'weasel', *kaśīkā́-* '± she-weasel'. The exact meaning of this word in IE is not clear, but its distribution suggests at least late PIE status.

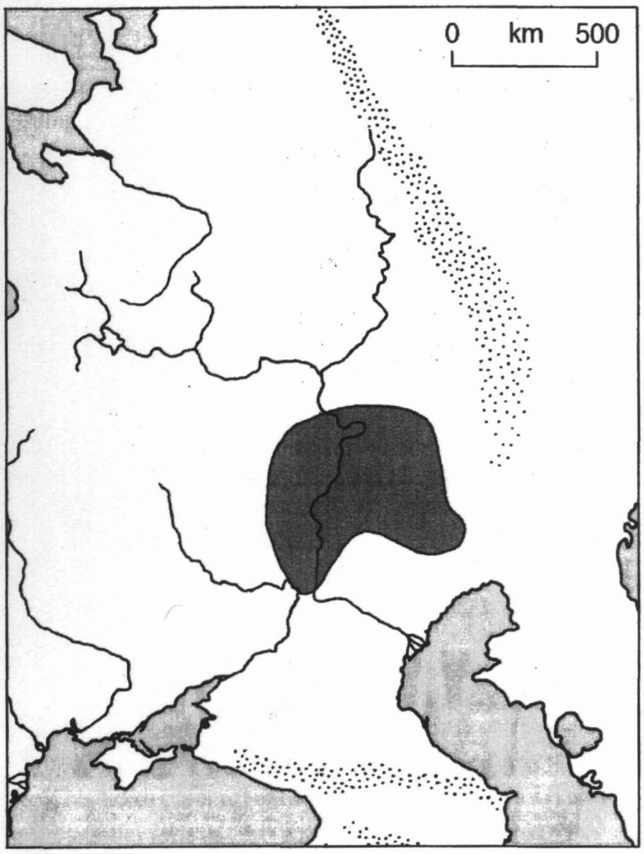
In addition to the otter, badger and wolverine, the mustelidae also include the martens, the weasel and the polecat, among which there seems to be considerable lexical confusion. The polecat is found over most of Europe (except Ireland, northern Scandinavia, and Greece), Kazakhstan, and south to Kashmir but this same area also embraces that of many other mustelids as well and that overlap may account for the shift of meaning between Baltic and Old Indic.

See also BADGER; MAMMALS; MARTEN; WEASEL. [D.Q.A., J.P.M.]

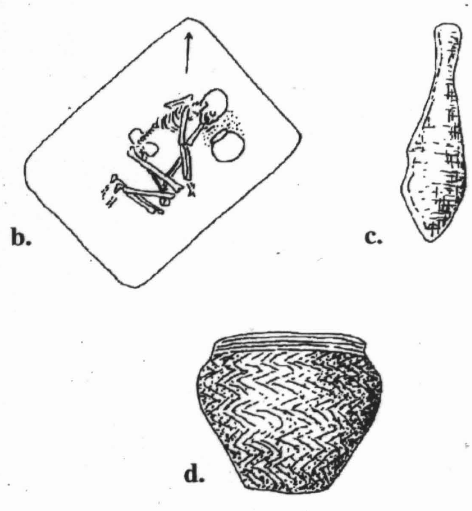
POLTAVKA CULTURE

The Poltavka culture is the early to middle Bronze Age culture (c 2700–2100 BC) of the Volga-Ural steppe and forest-steppe. Culturally, it continues the earlier steppe traditions of the Yamna culture and precedes that of the Srubna or Timber-grave culture; in some archaeological systems it has been regarded as the early phase of the Srubna culture. It is roughly contemporary with the Catacomb culture of the Dnieper-Don region.

The Poltavka culture distinguishes itself from its Yamna predecessor through its ceramics (now flat-bottomed rather than pointed or rounded-based) and the marked increase in metallurgy, particularly that drawn from local metallurgical centers in the southern Urals. In addition to local sources, there is evidence of north Caucasian influences seen in gold



Poltavka a. Distribution of the Poltavka culture.



Poltavka b. Poltavka burial from Berezhnovka; ocher under the head and before the face and accompanied by a bronze spearhead (c), an awl, and a Poltavka vessel (d).

and silver rings and bronze axes which ultimately mirror forms from the area of the Maykop culture. The rise of metallurgy is evident in the more conspicuous display of ornaments and weapons in Poltavka burials which is seen to signal increasing social stratification.

Settlements are exceedingly rare and largely confined to scatters of Poltavka ceramics on sand dunes in the lower Volga region. The culture is known almost exclusively from its burials situated in cemeteries along river terraces. The deceased was interred on his or her (left) side or back, head oriented to the NE; in some instances the body was covered with ocher although not so frequently as in the earlier Yamna culture. Grave goods included pottery, metal objects (knives, axes, ornaments) and occasionally stone scepters. The burial pit might have a timber cover. The burials themselves were generally inserted into the kurgans (tumuli) of the earlier Yamna culture.

The Poltavka culture not only marks the local development from the Yamna culture to the later Srubna culture but also partially underlies the development of the Potapovka culture of the middle Volga region. In general, it is seen then as a culture ancestral to some of the earliest archaeological reflections of what are generally presumed to be early Indo-Iranian cultures.

See also Indo-Iranian Languages; Potapovka Culture; Srubna Culture; Yamna Culture. [J.P.M.]

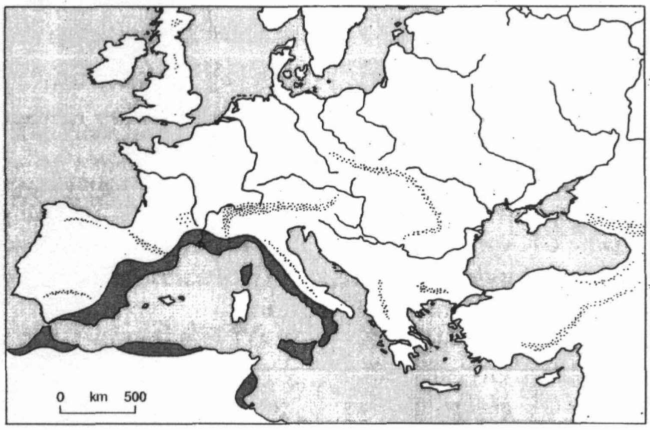
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POPPY

***meh$_a$k-** 'poppy (*Papaver* spp.)'. [*IEW* 698 (**măk(en)-*); Wat 38 (**mak-*)]. OHG *maho* ~ *mago* (< **m̥h$_a$ko-* and **m̥h$_a$kó-*) 'poppy', OPrus *moke* 'poppy' (if not a loanword from Slavic), OCS *makŭ* 'poppy', Rus *mak* 'poppy', Grk *μήκων* (Doric *μᾱ́κων*) 'poppy'. When taken together, these forms suggest a PIE paradigm of nom. **méh$_a$kōn*, gen. **m̥h$_a$knós*. Certainly a late word of the west and center of the IE world.

The poppy was probably employed initially for its oil which is extracted from its seeds which may also be consumed. The oil can be used both in food and industrially. Nevertheless, knowledge of its use as a pain killer, where opium could be extracted from its unripe capsules, may also be quite old. The form of wild poppy that is predecessor to the domestic form is *Papaver setigerum*, a plant generally confined to the west Mediterranean. It is not known from early Neolithic contexts in either the Near East nor in southeast Europe, including Greece (where we have a cognate); *Papaver* is first recorded in Macedonia in early Bronze Age (*c* 3000–2200 BC) contexts. Other forms of wild poppy do regularly occur throughout Europe as crop weeds. *Papaver setigerum* appears in the late Neolithic of Iberia, southern France, Italy, Switzerland and Germany (Linear Ware culture), Poland, and Romania (Tripolye culture). It has been presumed that it was



Poppy Distribution of the wild poppy (*Papaver somniferum*).

first domesticated in the west Mediterranean and then spread eastwards. Changes in the poppy which are generally associated with domestication have been observed in remains from both Spain and Switzerland. Opium capsules have been found associated with Neolithic burials in Spain dating back to *c* 4200 BC. It has also been suggested that the shape of some of the vessels of the Neolithic TRB culture of northern Europe reflect the form of inverted poppy heads and they may have been employed as special ritual serving beakers. This has not so far been confirmed by evidence of their residue but traces of poppy have been recovered later in the Bronze Age from flasks from Cyprus.

See also Hemp; Henbane; Plants; Sacred Drink. [D.Q.A., J.P.M.]

Further Reading

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PORRIDGE

polt- 'pap, porridge'. [*IEW* 802 (**pel-*)]. OIr *littiu* 'porridge, gruel', Wels *llith* 'pap, mash', Lat *puls* (gen. *pultis*) 'pap, porridge, mash', Grk *πόλτος* 'pap, porridge'. A probable word in late IE of the west and center.

See also Food. [D.Q.A.]

PORTION

***$h_{2/3}$ónḱos** 'what is bestowed'. [*IEW* 316–318 (**onḱo-s*); GI 818 (**onkʰo-*); Wat 44 (**nek-*)]. Grk *ὄγκος* 'burden', Arm (pl.) *hunjk'* 'harvest', Hit *henkan-* 'fate, death', Av *ąsa-* 'part', OInd *áṃśa-* 'portion, share'. Though sparsely attested, the geographical distribution of those attestations strongly suggests PIE status for this word. The underlying verb is preserved only in Hit *henkzi* 'bestows' (cf. *hinkuwar* 'offering').

?*pr̥(h_3)tis 'what is distributed'. [*IEW* 817 (**pr̥̄-ti-*); GI 712; Wat 50 (**perə-*); Buck 13.23]. Lat *pars* 'part', *portiō* 'portion', OInd *pūrtá-* 'gift, granting, reward', *pūrtí-* 'granting, rewarding, reward'. From **per(h_3)-* 'sell, distribute'. If these words are not independent creations in the various stocks, then we have good evidence of a word of PIE status.

See also Exchange. [D.Q.A.]

POST

ḱlīts** (gen. ***ḱlitós**) 'post, trimmed log'. [cf. *IEW* 601–602 (**ḱlei-*)]. OIr *clī* (gen. *cleth*) 'housepost', ON *hlið* 'lattice-gate', OE *gehlid* 'fence' (i.e., 'series of posts'; Gmc < **ḱlitóm*), Latv *slita* 'fence of horizontal pieces of wood', Grk (pl.) ***δικλίδες (with secondary *-d-* for **-t-*) 'double-posted (of doors or gates)', (Hesychius) (pl.) *κλίτα* 'cloister' (< *'arcade' < *'series of posts'), Waigali *çī* 'ladder made from a single log', Yazghulami *x̌ad* (< Proto-Iranian **sritā-*) 'ladder', OInd *śrít-* 'ladder'. Presumably from **ḱlei-* 'lean'. Widespread and old in IE.

***ḱsūlom** 'worked, shaped wood; post, stake'. [Buck 1.43]. Goth *saúls* (< Proto-Gmc **(h)sula-*) 'pillar' (and with new lengthened grade: ON *sūl(a)* 'pillar', OE *sȳl* 'pillar', OHG *sūl* 'pillar'), OPrus *sulis* 'stave', Lith *šùlas* 'wooden post, stave' (dial.) *šùlinis* 'well' (< *'made from wooden planks'), Rus *šúlo* (< **ḱseulo-*) 'fencepost', Grk *ξύλον* 'wood (ready for use), timber, plank, bench', *ξύλινος* 'wooden'. The underlying verb is preserved in Grk *ξύω* 'scrape, polish'. A word at least of the west and center of the IE world.

***kroku- ~ *krókı̯eh$_a$-** 'post'. [*IEW* 619 (**krēk-*); Buck 19.17]. From **kroku-*: OIr *crīch* (< **krēku̯eh$_a$* 'boundary marker'?) 'end, boundary', Wels *crib* 'point', Rus *krókva* 'stake'; from *krókı̯eh$_a$-* : Lith *krãkė* 'post', Grk (pl.) *κρόσσαι* 'crenellation'. Cf. also Lith *krẽklas* 'rafter'. At least a word of the west and center of the IE world.

***mīts** (gen. ***mitós**) 'stake, post'. [*IEW* 709 (**mē(i)t-*); Wat 40 (**mei-*)]. MIr *methas* (< **mit-ustu-*) 'boundary marker', ON *meiðr* (< **moito-*) 'post; border, boundary', Lith *miẽtas* 'post', Latv *mìets* 'post', Arm *moyt'* 'pillar', OInd *mít-* 'something erected, pillar, post', *methí-* (with unexplained *-th-* rather than *-t-*) 'pillar'. Except for OInd *mít-* we find younger thematic derivatives of one sort or another. The geographical distribution of these derivatives would appear to guarantee the PIE status of this word. The underlying verb **mei-* is preserved in Latv *meju* 'drive in a stake' and OInd *minóti* 'fixes, fastens in the ground, sets up'. Lat *mēta* 'pyramid structure, boundary stone' has also been associated with this group. If it belongs here, it might represent a **mēiteh$_a$-* or it might represent a conflation of **meiteh$_a$-* with the verb *mētīri* 'measure'.

***masdos** 'post'. [*IEW* 701–702 (**mazdo-s*); Wat 39 (**mazdo-*); Buck 10.87]. MIr *maide* (< **maite* < **mazdios*) 'post', OIr *matan* 'club', Lat *mālus* (< **mādos* < **mazdos*) 'mast', OE *mæst* 'mast' (> NE *mast*), OHG *mast* 'pole', Lith *mãstas* 'mast, pole' Latv *masts* 'mast', Rus *mostovája* 'plaster'. A northwestern isogloss in late IE.

***perg-** 'pole, post'. [*IEW* 819–820 (**perg-*); Wat 50

(**perg-*)]. Lat *pergula* 'porch', ON *forkr* 'pole', Lith *pérgas* 'fishing-boat, dug-out canoe', OCS *pragŭ* 'threshold, doorstep', Rus *poróg* 'threshold'. Northwest dialectal isogloss in late IE.

(s)teg- 'pole, post'. [*IEW* 1014 (**(s)teg-*); Wat 65 (**steg-*); Buck 10.87; BK 135 (**t'aq'-/*t'əq'-*)]. Lat *tignum* (< **teg-no-*) 'building materials, log, post, beam', ON *stjaki* 'post', OE *staca* 'pole', OHG *stehho* 'club, post', Lith *stāgaras* 'long stalk', Latv *stęga* 'long stalk', OCS *stežerĭ* 'pivot', Rus *stožár* 'pole'. Perhaps Arm *t'akn* 'club' belongs here as well. A word of the west and center of the IE world. This is related to the word for 'roof' and perhaps we may ascribe to **(s)teg-* 'cover with poles' and thus presume a metonymic shift to 'pole' and 'to roof' as nominalizations of the original root.

reh$_1$t 'post, pole'. [*IEW* 866 (**rēt-*); Wat 54 (**rēt-*)]. Late Lat (pl.) *rētae* 'trees pushing out from the bank of a watercourse', ON *rōða* (*o*-grade) 'pole, cross, holy picture', OE *rōd* 'cross', gallows' (> NE *rood*), OHG *ruota* 'switch, pole', OCS *ratište* 'spear-shaft' (Gmc and OCS < **roh$_1$t-*). Northwestern regionalism in late IE.

k̑i̯on- (*?*k̑ih$_x$u̯on-*) 'pillar, post'. Myc *ki-wo-* 'post, pillar', Grk *κίων* '(free-standing) pillar', Arm *siwn* 'pillar', *seamk'* (pl.) 'doorjambs'. Distribution suggests a Greek-Armenian isogloss of late IE. Possibly derived ultimately by laryngeal metathesis from **k̑h$_x$i-u̯on-* which would derive from **k̑eh$_x$(i)-* 'sharpen', i.e., a pointed pole or stake, and hence the noun would derive from an adjectival form **k̑ih$_x$-u̯ón-* with retraction of accent.

stḫ$_2$bho/eh$_a$- 'post, pillar'. [*IEW* 1012–1013 (**stəbho-s*); Wat 65 (**stebh-*)]. MIr *sab* (< **stḫ$_2$bheh$_a$-*) 'post', ON *stafr* 'staff', OE *stæf* 'staff' (> NE *staff*), OHG *stap* 'staff', OPrus *stabis* 'stone', Lith *stābas* 'post', Latv *stabs* 'pillar'. Similar is Lith *stābaras* 'dry branch, stalk', OCS *stoborŭ* 'column'. A nominalization of **steh$_2$-* 'stand'. A word of the northwest of the IE world.

stéh$_2$ur (gen. ***sth$_2$unós*** ~ ***stuh$_2$nós***) 'post'. [*IEW* 1009 (**stāu-ro-*); Wat 64–65 (**stā-*); Buck 10.86]. ON *staurr* 'post', Grk *σταυρός* 'post, cross' (ON/Grk < **stéh$_2$ur-o-*), Shughni *sitan* (< Proto-Iranian **stunā-*) 'pillar, post', OInd *sthū́ṇā-* 'pillar, post, column'; with a new full-grade we have OE *stēor* 'steer, guide, direct' (> NE *steer*), OHG *stiura* 'steering-oar; post'. Derivatives include Arm *stvar* 'thick', OInd *sthāvarā-* 'fixed, immovable, permanent', *sthūrá-* ~ *sthávira-* 'thick, strong, big'. Attested as it is on the peripheries of the IE world, this word is of PIE date. From **steh$_2$u-*, an enlargement of **steh$_2$-* 'stand'.

stl̥neh$_a$- 'post, support'. [*IEW* 1019–1020 (**stl̥-no-*); Wat 66 (**stel-*)]. OHG *stollo* 'support', Grk *στήλη* (< **stalnā*) 'pillar'. Nominalization of **stel-* 'stand'. Cf. also ON *stallr* 'stand' from PIE **stolnos*. A word of the west and center of the IE world.

su̯er- 'post, rod'. [*IEW* 1050 (**su̯er-*); Wat 68 (**swer-*)]. Lat *surus* 'twig, shoot, stake', OE *sweor* 'post', MHG *swir* 'mooring post', Grk *ἕρμα* (< **su̯érmn̥*), 'support', OInd *sváru-* 'sacrificial post, stake, long piece of wood'. Though attested sparsely, the geographic spread of those attestations would seem to guarantee PIE status, even though the exact PIE form cannot be reconstructed.

u̯álsos 'stake'. [*IEW* 1140–1142 (**u̯el-*); Wat 73 (**walso-*)]. Lat *vallus* 'pole, stake; palisade', *vallum* 'rampart set with palisades', Grk *ἧλος* (Doric *ἇλος*) 'nail'. The only late attested OInd *vala-* ~ *valaka-* '± pole, beam' are sometimes also put here. Related are the Germanic words reflecting **u̯alu-*: ON *vǫlr* 'round staff', OE *walu* 'stripe left by a blow, wale' (> NE *wale*), MHG *wal* 'staff', Goth *walus* 'staff'. A word of the west and center of the IE world.

ĝhalgheh$_a$- 'pole, stake'. [*IEW* 411 (**ĝhalg(h)-*); Wat 21 (**ghalgh-*)]. ON *galgi* 'gallows', *gelgja* (< **ĝhalghi̯eh$_a$-*) 'pole, stake', OE *gealga* 'gallows' (> NE *gallows*), OHG *galgo* 'gallows', Goth *galga* 'stake, cross', Lith *žalgà* 'long thin pole', Latv *žalga* 'long rod' (borrowed from Lithuanian), ?Arm *jałk* 'twig, switch, rod' (the *-k-* rather than the expected **-g-* is not well explained, perhaps < **ĝhalgeh$_a$-*). Certainly a word of the northwest of the IE world, also the center if Armenian belongs here too.

ĝhasdhos 'rod, staff'. [*IEW* 412–413 (**ĝhasto-* ~ **ĝhazdho-*); Wat 21 (**ghasto-*); Buck 20.26]. MIr *gat* 'willow withe', Lat *hasta* 'spear', Umb *hostatu* 'armed with a spear', ON *gaddr* 'rod, goad, spike', OE *gierd* 'staff, twig, pole; measuring rod' (> NE *yard*), OHG *gartia* 'pole', *gart* 'goad', Goth *gazds* 'sting'. A word of the IE west.

(s)kólos 'stake'. [*IEW* 924 (**(s)kōlo-*); Wat 59 (**skel-*)]. Lith *kuõlas* 'pale, stake, post, pile', Alb *hell* 'spit, skewer', Grk *σκῶλος* 'pointed stake'. A word of the center in late PIE. From **(s)kel-* 'cut'. Similar in meaning but with a short vowel is OCS *kolŭ* 'stake'.

pin- '± shaped wood'. [*IEW* 830 (**pi-n-*)]. OHG *witu-fīna* 'heap of wood', OCS *pĭnĭ* 'tree trunk', Rus *penĭ* 'stump', Grk *πίναξ* 'plank, tablet', OInd *pínāka-* 'staff; bow (especially of Rudra)'. The geographical distribution would seem to guarantee this word's PIE status. The agreement of the Indic and Greek in terms of form is noteworthy. The precise meaning of this word is difficult to establish.

stup- '± off cut, piece of wood'. [*IEW* 1034 (**(s)teu-p-*); GI 102]. ON *stūfr* (with new lengthened grade) 'stump', OE *stofn* 'trunk, stem, branch, shoot', Latv *stups* 'worn out broom', Grk *στύπος* 'stick, post, pole; stalk, stem', TochA *ṣtop* (< **stoupo-*) 'club'. Widespread and clearly old but the exact form and meaning are elusive. From **steup-* 'strike'.

Although this semantic field is well represented with terms of some IE or PIE antiquity, the precise meaning or even use of many of the reconstructed proto-forms is very difficult to recover. It has been argued that the ritual use of the Hit *sarhul(i)* and ^{GIS}*kurakki-* '(ritual) post', posts by which sacrificial offerings are deposited, finds earlier parallels in the Neolithic cultures of the Balkans where timber and plastered posts have been uncovered in ritual shrines in Romania. Furthermore, the possible antecedents of Myc *ki-wo* 'pillar, post' have also been sought in later Neolithic Greece where there is evidence of free-standing posts in presumably ritual contexts. However, there is no evidence that the Hittite terms

are reflexes of PIE words and the Mycenaean word for 'pillar' is confined to a Greek-Armenian isogloss. Whatever similarities one might wish to posit between later cultic practices and those found during the Neolithic period rest solely on surface similarities (of widely distributed ritual behavior) and not on linguistic evidence.

See also House. [A.D.V., D.Q.A., J.P.M.]

Further Readings

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POT

h$_2$em- 'hold on to, contain'. [*IEW* 35 (**am-*); Mayrhofer I:96]. Grk *ἄμη* 'waterbucket, pail', Arm *aman* 'container', Khot *handra-* (< Proto-Iran **amtra-*) 'jar, pot', OInd *ámatram* 'a large vessel'. Perhaps Lat *ampla* (< **h$_2$em-tleh$_a$-*) 'handle' also belongs here. The Old Indic vessel is described in Vedic literature as a deep bowl with a wide opening which served both for drinking and eating. Certainly found in the center and east of the IE world and in the enlarged form, **h$_2$ems-*, even more widely (see 'Handle', 'Reins', 'King'). Cf. also **h$_2$em-h$_a$k̂sih$_a$* 'wagon chassis'. However, the actually attested derivatives look to be all independent creations in the stocks in which they occur.

kumbo/eh$_a$- 'bowl, small vessel'. [*IEW* 592 (**kum-bh-*); Wat 30–31 (**keu-*); Buck 5.26.7]. MIr *coim* 'pot' (cf. MWels *cwm* 'valley'), Grk *κύμβη* 'bowl', Av *xumba-* 'pot', OInd *kumbhá-* 'pot'. Either from **keu-* 'bend' or a loan because of the uncertain aspiration of the initial and the final bilabial. The OInd *kumbhá-* (masc.) was a jug for holding water, honey or other fluids and occasionally might serve as an urn for the deceased. It was employed in ritual, especially one which involved the sympathetic drawing of water down from the sky. The OInd *kumbhī́-* (fem.) was similarly employed for holding liquids. It could be covered and might also serve as an urn.

k^{w}erus 'large cooking pot, caldron'. [*IEW* 642 (**k^{u}er-*); Buck 5.27.3; BK 327 (**k^w[^{h}]ar-/*k^w[^{h}]ər-*)]. ON *hverr* 'caldron', OE *hwer* 'pot, bowl, kettle, caldron', OHG *(h)wer* 'caldron', OInd *carú-* 'caldron'. Also, OIr *coire* 'caldron', Wels *pair* 'cauldron' from a derivative **k^{w}ari̯os* or **k^{w}r̥i̯o-*, cf. ON *hverna* 'pot, head'; if related, TochB *keru* 'drum' is an *o*-grade (i.e., **k^{w}oru-*). The underlying form is not derived from a productive stem and the geographical separation assures PIE status.

The Celtic terms (OIr *coire*, Wels *pair*) generally refer to a large metal caldron and in early Irish and Welsh literature, such a vessel plays an important part in mythology which is replete with magic caldrons which may satisfy all and even rejuvenate the dead. Old Norse similarly had a magic caldron (*hverr*) whose acquisition by the gods is recorded in the *Hymiskviða*. In general, the underlying referent is a large metal vessel suitable for boiling or brewing. The OInd *carú-* was a cooking vessel that might be made out of metal (*ayas-*) or of clay. Since the word appears to be PIE, it is easiest to assume that the ascription to a specifically metal caldron was a later semantic development made in western Europe. Here, from the later Bronze Age, i.e., *c* 1200 BC onwards, we find the production of bronze caldrons from central Europe to Britain and Ireland. An alternative possibility is that the term referred to a metal caldron already by late PIE. Bronze caldrons are known, for example, from the Maykop culture of the north Caucasus dating from the period *c* 3000 BC. One of these had an estimated capacity of seventy liters.

pēl(h$_1$)eu̯is 'container'. [*IEW* 804 (**pēl-ou̯i-*); Wat 48 (**pēl-owi-*); BK 54 (**p[^{h}]al-/*p[^{h}]əl-*)]. Lat *pēlvis* 'basin', OInd *pālavi-* 'pot'; related are ON *full* 'goblet', OE *full* 'goblet', Grk *πέλλα* 'milk-can'. From **pel-* 'hide' or **pelh$_1$-* 'fill'. The unusual formation, an *i*-stem derivative of a *u*-extension, and the geographical separation assure PIE status.

póth$_a$r̥ (gen. ***p$_e$th$_a$nós***) 'shallow dish'. [*IEW* 824–825 (**pet-*); Buck 5.28; BK 38 (**p[^{h}]at[^{h}]-/*p[^{h}]ət[^{h}]-*)]. OIr *ān* 'drinking vessel', Grk *πατάνη* 'bowl, flat dish' (borrowed > Lat *patera* 'low bowl, saucer, libation-bowl', *patina* 'broad, shallow dish, stewpan'), Hit ^{GIS}*pattar* '± dish; vessel made of ossiers or wood used for holding dry material but not liquids'. The archaic morphology (i.e., the remains of an *r/n*-stem) strongly suggest PIE antiquity for this word. From **peth$_a$-* 'spread out'.

tek̂steh$_a$- 'plate, bowl'. [*IEW* 1058 (**tek̂p-tā-*); GI 611 (**t^{h}ek̂^{h}s-*); Buck 5.35.7; BK 91 (**t[^{h}]ak[^{h}]-/*t[^{h}]ək[^{h}]*)]. Lat *testa* 'plate, pot', Av *tašta-* 'cup'. From **tek̂-s-* 'hew, fashion from wood'. The geographical separation suggests PIE status.

h$_{2/3}$uk^w- 'cooking vessel'. [*IEW* 88 (**u̯equ̯(h)-*); GI 613; Buck 5.25.2, 5.26.2]. With older, marginal **k^w* > **p* : ON *ofn* 'oven', OE *ofnet* 'closed pot', *ofen* 'furnace' (> NE *oven*), OHG *ofan* 'oven', OPrus *wumpnis* (< **up-ni-*with anticipatory nasal) 'bake-oven', Myc *i-po-no* 'cooking bowl', Grk *ἰπνός* 'oven', Hit *hūppar(a)-* 'bowl, pot, keg' (also a unit of measure). With innovative delabialization after [*u*]: Lat *aulla* 'pot', Goth *aúhns* 'oven', Arm *akut'* 'hearth', OInd *ukhá-* 'cooking pot'. A very old PIE construction with a delabialized variant of **h$_{2/3}$uk-*.

The OInd *ukhá-* (masc.) and *ukhā́-* (fem.) were clearly some form of boiler and in the feminine form, one of the most frequently cited ritual vessels in Vedic religion. As such it was specifically hand-made rather than wheel-made which attests to its antiquity (wheel-made vessels, such as those produced by the earlier Harappan culture, were regarded as 'demon-made' and unsuitable for Vedic ritual). The manufacture of vessels for sacrifices was attended by considerable ritual. From abundant descriptions in later Vedic literature the vessel was generally round with a flat bottom although occasionally described as nine-cornered. It was built up from three or five clay strips and had a base-diameter of about 24 cm and stood between 24 and 40 cm high with a mouth

anywhere from 24 to 120 cm wide. It was employed in conveying fire.

bhidh- 'large pot'. [*IEW* 153 (**bhidh-*); GI 23 (**b^hid^h-*)]. Lat *fidēlia* 'earthenware pot', NIce *biða* 'small tub'. Grk *πίθος* 'jar', although sometimes compared, is unrelated since the earliest Greek form, Myc *qe-to*, indicates an initial labio-velar. The distribution suggests a western word, possibly based on **bheidh-* 'bend', referring to basketry or coiled pottery techniques.

poh₃tlom 'drinking vessel'. [*IEW* 840 (**pō-tlo-m*); Buck 5.31.7, 5.35.2,7; BK 40 (**p[^h]a-/*p[^h]ə-*)]. Lat *pōculum* 'cup', OInd *pátra-* 'drinking vessel'. From **peh₃-* 'drink'. Although geographical separation is good, the construction is commonplace. The OInd *pátra-* was made of clay and might serve either as a pot or a dish where it might also provide a covering for another vessel. While it could be drunk from it might also be employed in conveying fire. The word could also be used to designate the spout of a vessel.

kelp- 'jug, pot'. [*IEW* 555 (**kelp-*)]. OIr *cilorn* (< **kelpurno-*) 'pitcher', Wels *celwrn* 'milk can', Grk *κάλπις* ~ *κάλπη* 'jug,(water) pitcher' (borrowed via Oscan or Etruscan > Lat *calpar* 'wine bowl'). The Old Irish word is glossed in Latin as a *situla* 'bucket' or *urceus* 'pitcher, water pot' and is described as made either of bronze or yew. The Greek *κάλπις* was a (ceramic) water pitcher; it was also used for drawing lots and as an urn. It has been suggested that the IE word may derive from Semitic, e.g., Akkadian *karpu* 'recipient', but this seems very distant. OInd *karpara-* 'cup, pot' is sometimes set here but it is better associated with OHG *scirbi* 'sherd', OPrus *kerpetis* 'skull', OCS *črěpĭ* 'sherd' from PIE **(s)kerp-*, an extension of **(s)ker-* 'cut'. If Old Indic does not belong here then a word of the west and center of the IE world. If *karpara-* is a cognate, then we have evidence of a word of greater antiquity.

?*kVlVk̑- 'cup, drinking vessel'. [*IEW* 550 (**kel-*); Buck 5.35.1]. Lat *calix* 'cup, goblet', Grk *κύλιξ* 'cup', OInd *kaláśa-* 'pot, pitcher'. Possibly a Near Eastern loan because of the uncertain vowels and syllable structure.

?*kuh_xp- 'water vessel'. [*IEW* 591 (**keu-p-*); Wat 30 (**keu-*); GI 27; Buck 5.26.7, 5.35.1]. Lat *cūpa* 'cask', Grk *κύπελλον* 'cup', cf. ON *hūfr* 'hull of a ship', OE *hȳf* 'beehive' (> NE *hive*), OInd *kū́pa-* 'hole'. From **keu(h_x)-* 'curve'. The geographical confinement and banal semantics makes PIE status unlikely. Many vessel names are found with an initial **ku-*.

?*le/ok- 'dish'. [*IEW* 308 (**ēl-ĕq-*)]. Lat *lanx* 'plate, platter, dish', OCS *lakŭtŭ* 'earthenware jug', Grk *λεκάνη* 'dish, plate, pot, pan'. The Latin word may be borrowed from the Greek whose own formation contains the same suffix as *πατάνη* 'bowl'. It is not altogether certain that the Slavic and Greek words belong together. If so, we have evidence for a word of the center of the IE world.

?*bhel- 'pot'. [*IEW* 121 (**bhel-*); Wat 6–7 (**bhel-*)]. OIr *ballān* 'drinking vessel', ON *bolli* 'offering cup', OE *bolla* 'pot' (> NE *bowl*). At best a Celtic-Germanic isogloss but the Irish form may be borrowed from Old Norse.

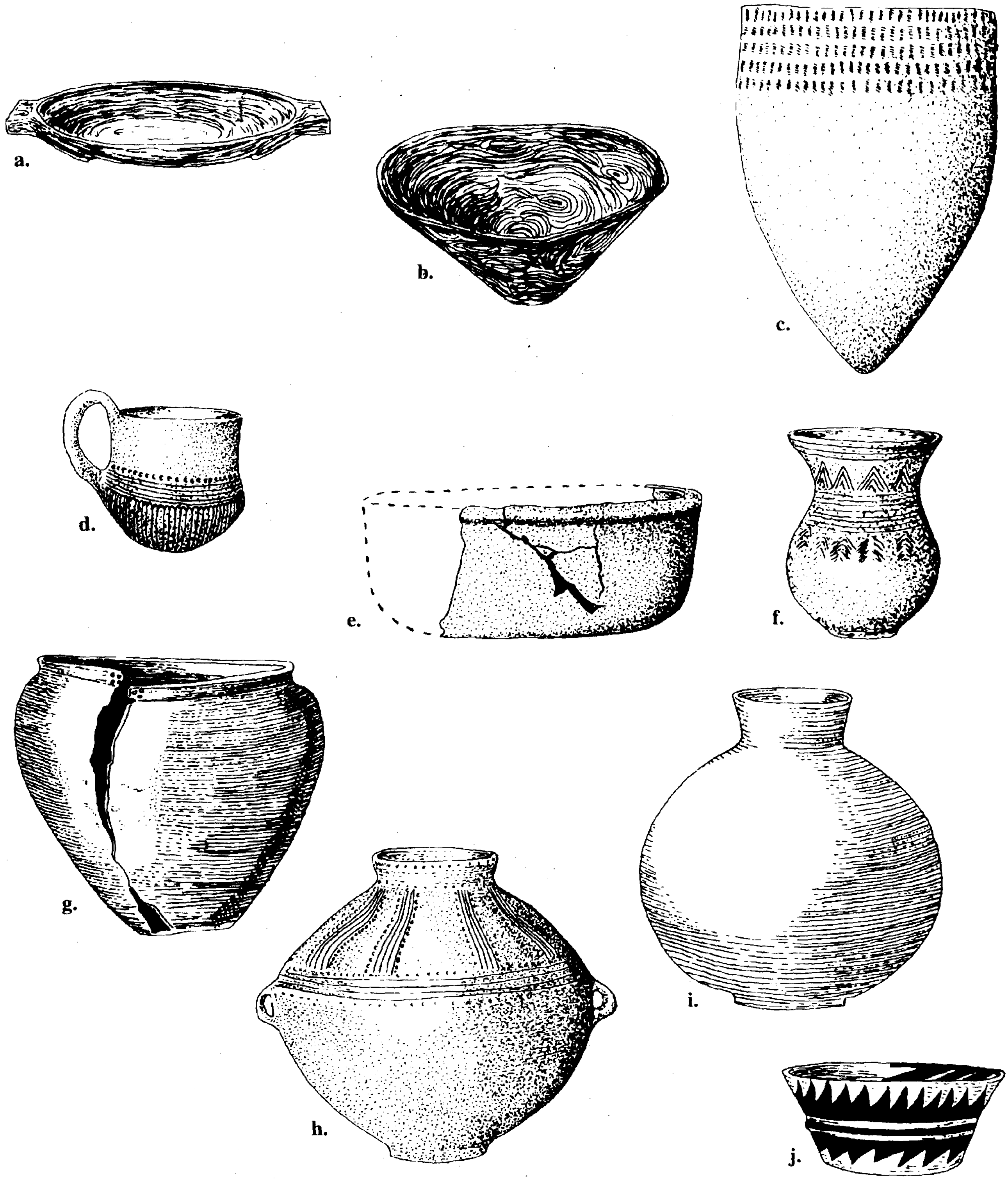
?*(s)pondh(n)os 'wooden vessel'. [*IEW* 989 (**(s)pondho-*)]. ON *spann* 'pail', MHG *spān* 'wooden vessel', MDutch *spaen* ~ *spân* 'wooden pail' (Gmc < **spondhnos?*), Lith *spandis* 'pail', Latv *spa(ñ)nis* 'pail, a kind of wooden honey-container', OCS *spodŭ* 'measure (of grain)', Arm *p'und* (< **phondho-*) 'pot'. It is not certain that the words gathered here all belong together (the Germanic words might otherwise be grouped with OE *spann* 'span' for instance). If they do, we have evidence for a word of the west and center of the IE world.

??*ĝh(e)utreh_a- '± pot'. Thracian *ζετραία* 'pot', Grk *χύτρα* 'pot'. So little is known about Thracian that we cannot be certain that the attested Thracian word would be the regular descendant of the proposed PIE pre-form. In any case, the divergence in ablaut grade (Thracian presupposing **-eu-* and Grk **-u-*) makes it clear that if the two are related, the relationship rests on the basis of inherited morphological elements rather than mutual inheritance of a particular PIE word.

Ceramic terms in the Indo-European languages were highly susceptible to borrowing, especially in the Mediterranean. There are, for example, words which have long been recognized as loans from non-Indo-European populations in the Near East into individual Indo-European languages, e.g., Hebrew *kad* 'bucket' and Grk *κάδος* 'large vessel', Lat *cadus* 'large vessel, wine-jar, jug', OCS *kadĭ* 'cask, barrel, tub' (dialectally also 'a measure for grain'), which suggests progressive loans across the Mediterranean and northwards. These may date from the first millennium BC when Phoenician traders dominated much of the Mediterranean exchange routes and were in contact with Greeks through their colonies in Cyprus and Sicily. Possibly the loans date to an earlier period as there is also evidence for exchange between Greece, Crete and the Levantine coast in the later Bronze Age, i.e., in the mid second millennium BC. These loans may then have penetrated northward via the Greek colonies in the west Mediterranean who were in contact with the Celts of southern France (who acquired both wine and the vessels associated with its consumption from the classical world) or later by way of the Roman expansion across Europe. In some cases the chain of loans may begin with an Indo-European language: Grk *ἀμφορεύς* 'wine jug' was borrowed into Latin *amphora* 'two-handled vessel, pitcher', and then on into Germanic, e.g., OE *amber* 'vessel, pail, tankard, pitcher' (a dry or liquid measure [= four bushels]?), OHG *ambar* 'pail, vessel'. Finally, there are the terms listed above that appear to have some antiquity in Indo-European.

Archaeological Evidence

The production of ceramics in southwest Asia began *c* 7000 BC and they are known in adjacent territories such as Greece from *c* 6500 BC and by the sixth millennium BC pottery begins to appear both north of the Black Sea and in Baluchistan. Ceramic technology crossed Europe with the spread of farming communities and reached the far northwest *c* 4000 BC. The



Pot a. Shallow wooden bowl from Çatal Hüyük; b. Wooden bowl from Çatal Hüyük; c. Pointed-based pot from the Dnieper-Donets culture of the Ukraine; d. Handled cup from Baden culture; e. Stone bowl of Surski culture, Ukraine; f. Corded Ware beaker; g. Bronze caldron from Maykop culture; h. Corded Ware amphora; i. Kitchen vessel from Neolithic Greece; j. Painted ware bowl from Neolithic Greece.

terms for ceramics then have a lower date of about the seventh millennium or more recent, depending on the location of the Proto-Indo-Europeans or, possibly, the communities from whom some Indo-European groups adopted ceramic terms. That the etymology of some of the terms for vessels may be associated with organic containers, e.g., **bhidh-* perhaps from basketry, **pēl(h₁)eu̯is* possibly from a skin container, or **teḱstehₐ-* from wood, occasions no surprise since all these materials were employed prior to the invention of clay-fired pottery. It should be emphasized though that containers made of organic materials do not necessarily relate to the invention or initial contact with ceramics by Indo-Europeans since such containers were also used concurrently with ceramic vessels throughout the Neolithic and on into subsequent periods. Their use is archaeologically evident in areas permitting the preservation of organic remains such as the Swiss lakeside settlements of the Neolithic that have yielded abundant evidence of vessels ranging from large oak tubs to smaller birch-bark cups. A large domestic industry of organic containers can be assumed to have existed across Eurasia. In a few instances regions that previously employed ceramic vessels appear to have abandoned them, e.g., Ireland where clay vessels seem to disappear by the Iron Age and other than very rare imports, the only clay vessels known from the early medieval period, the time of our earliest Irish texts, were confined to the northeast of the island. Hence the Irish terms for vessels are usually in reference to those made of either wood or metal which suggests a later semantic shift, cf. the Germanic and Celtic terms associated with **kʷerus* which generally relate to metal caldrons of the late Bronze Age (*c* 1200 BC or later) rather than ceramic vessels. There are also a series of terms that refer to both vessels and the human skull, e.g., Latin *cuppa* 'beaker' but MHG *kopf* ~ *koph* 'skull', or ON *hverr* 'caldron' but Goth *hvaírnei* 'skull'.

Any attempt to utilize the lexical evidence to support a particular homeland theory rests at best on exceedingly contestable evidence. In terms of ceramic form and technology, those words that appear to be the most strongly attested generally offer semantic fields too vague for archaeological identification, e.g., 'container' or 'bowl'. Broadly speaking, early Neolithic ceramic production in both southwest Asia and the Balkans employed both coarseware vessels and fine painted pottery. The Indo-European vocabulary does not directly permit the reconstruction of painted vessels (nor would we expect the survival of such terms even if they did exist). The only argument for such wares rests most tenuously on Wilhelm Schulze's observation of the parallel structure of the Tocharian *tsekeṣi pekeṣi pat arämpāt* : Latin *ficta sive picta forma* both of which would render: 'beauty (or form) either fashioned or painted'. The combination of 'fashion and paint' (which in the Tocharian text specifically referred to an object carved from wood) led Julius Pokorny to assume that this rhyming formula originated with painted pottery (fashioned from clay and then painted) and, therefore, the Tocharians must themselves have originated in the vicinity of the Romans and gained their knowledge of painted pottery from the Linear Ware culture of Moravia and Bohemia (painted ceramics can be found from Italy to the Dnieper). This concatenation of assumptions impresses no one.

Although some have sought to situate the IE-homeland in southwest Asia, in so far as ceramic terminology is concerned, the only deep Indo-European-Semitic correspondence (as opposed to late Mediterranean loanwords) argued is **néhₐus* 'vessel, ship', and Proto-Semitic **'unw-(at-)* 'pottery vessel' which also yields words for boats in the Semitic languages. Given the antiquity of boats within Eurasia, the dissimilarity of the roots compared, the semantic distance between the terms, and the fact that the IE form can be derived from a PIE verbal root for 'swim', this "borrowing" is hardly convincing.

GI have also suggested that PIE society knew wheel-made pottery. While it is clear that the early Indo-Europeans did know the wheel, there is no certain indication that it was applied to the manufacture of ceramics. The slow wheel begins to appear at the beginning of the Bronze Age, i.e., *c* 3300 BC, in southwest Asia and southeast Europe (as well as Mesopotamia). Of interest here perhaps is the fact that the Harappan culture did engage in the mass production of vessels using the wheel while the OInd *ukhá-* 'cooking pot', which was important in Vedic ritual, was required to be made by hand rather than by wheel. This requirement suggests, at least, that the early Indians inherited a tradition of hand-made wares and regarded wheel-made pottery as foreign.

See also **Basket**. [M.E.H., J.P.M.]

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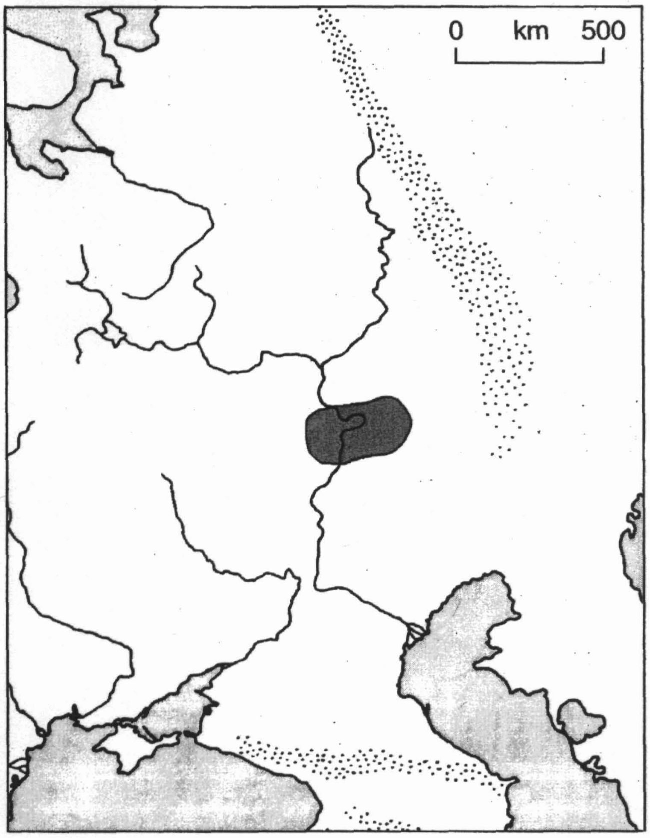
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POTAPOVKA CULTURE

Recently discovered and defined Bronze Age culture (*c* 2500–2000 BC) of the middle Volga, the Potapovka culture straddles the cultural traditions of both the European steppe and that of the southern Urals and western Kazakhstan. It is known from eleven kurgans (tumuli) comprising some eighty burials. The kurgans measure some 24 to 30 m in diameter and stand up to a half-meter in height. A typical feature is a large central burial chamber or chambers surrounded by smaller peripheral graves. Offerings such as the remains of horses, cattle, sheep/goat and dog may be found near the central burial complex. One of the most unusual ritual displays is found in one of the burials at Potapovka where an individual was apparently decapitated and his head replaced by that of a horse skull, a practice that has been claimed to be remini-

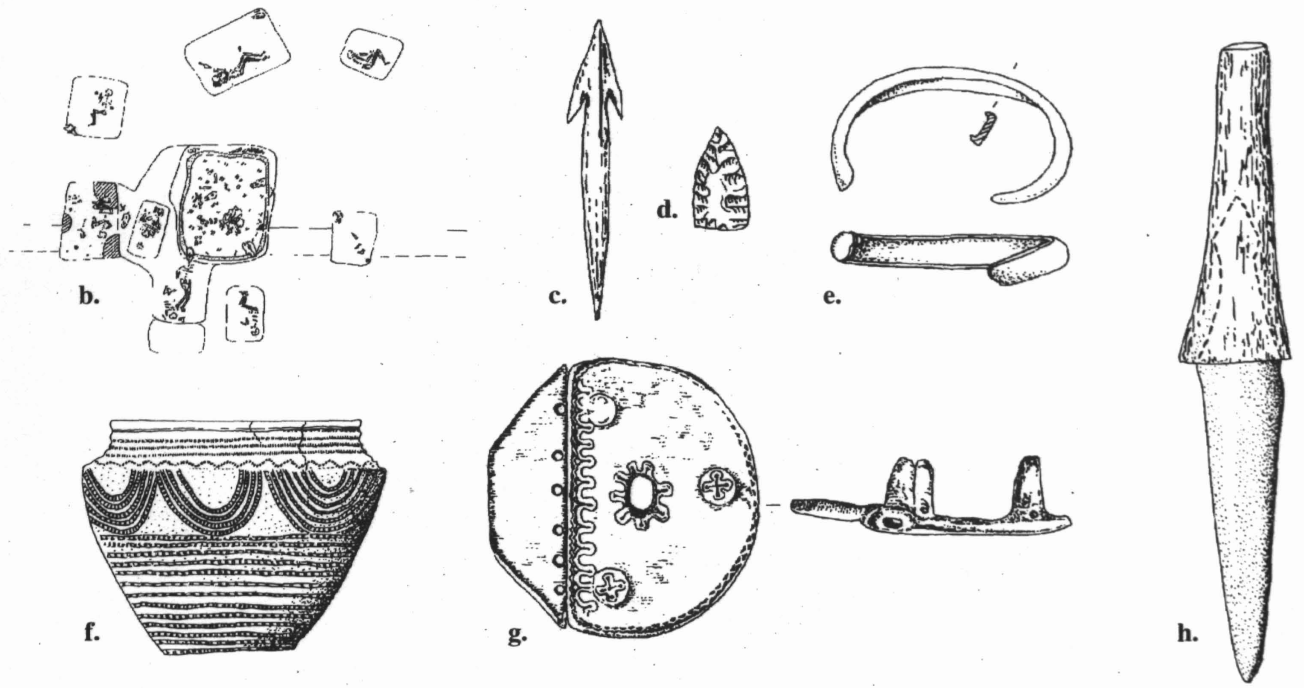


Potapovka a. Distribution of the Potapovka culture.

scent of the Vedic account of how the Aśvins replaced the head of the priest Dadhyañc Ātharvana with that of a horse so that he could reveal the secret of the sacred drink.

The possible remains of wheels or wheeled vehicles have also been observed. Grave goods consist of decorated pottery, metal objects (twenty-one knives have been recovered along with a variety of chisels, awls, hooks and other tools); bronze ornaments such as bracelets, beads and rings are also known and, much more rarely, are found small ornaments of silver and gold. Flint arrowheads constitute the major category of stone artifact while the culture is especially marked by the presence of bone cheek-pieces (*psalia*) for controlling horses.

The Potapovka culture bears many close similarities (ceramics, burial ritual, animal sacrifices, cheek-pieces) with more easterly cultures such as Sintashta and the Petrovka phase (or culture) of the Andronovo culture. Similarities are also seen between the Potapovka and Abashevo culture. Geographically, the Potapovka culture fills out the northern territory of the Poltavka culture and it is suggested that its genetic roots lie within the Poltavka with influences derived from the Abashevo and other neighboring cultures. That it is not derived from a more easterly source is argued both by the lack of a local ancestry for the Sintashta and earliest Andronovo cultures in their home region while the Potapovka culture occupies a region with a long genetic chain leading back to the Khvalynsk and Samara cultures. If this hypothesis is accepted, then there is good reason to argue a cultural trajectory moving from west to east which explains the



Potapovka b. Burial complex from Potapovka (individual with horse-head in foreground); c. Bone point; d. Arrowhead; e. Copper bracelet; f. Potapovka vessel; g. Cheek-piece from Potapovka burial; h. Copper knife.

emergence of the Andronovo culture, one of the primary candidates for the earliest Indo-Iranians.

See also ABASHEVO CULTURE; ANDRONOVO CULTURE; POLTAVKA CULTURE; SINTASHTA. [J.P.M.]

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POUR

***ĝheu-** 'pour'. [*IEW* 447–448 (**ĝheu-*); Wat 22–23 (**gheu-*); Buck 9.35]. Lat *fūtis* 'water-vessel, pitcher', Grk *χέ(ϝ)ω* 'pour', Arm *joyl* (< **ĝheu-lo-*) 'poured', Av *zaoθra-* 'libation', *zaotar-* 'priest, one who performs a sacrifice', OInd *juhóti* (with reduplicated present) 'sacrifices, pours a libation (of butter) into the fire', *hótar-* 'priest, one who performs a libation', TochAB *ku-* 'pour', TochB *kwälñe* 'libation'. Sufficiently widespread in its geographical attestation to be assured of PIE status. The religious associations round this verb in Indo-Iranian are striking.

***ĝheud-** 'pour'. [*IEW* 448 (**ĝheud-*); Wat 22–23 (**gheu-*); Buck 9.35]. Lat *fundō* 'pour', ON *gjōta* 'throw (young)', OE *gēotan* 'pour, flow', OHG *giozzan* 'pour, flow', Goth *giutan* 'pour, flow'. An enlargement of the previous word, found only in the west.

***seik-** 'pour out; overflow'. [*IEW* 893–894 (**seik$^{u̯}$-*); Wat 56 (**seik^{w}-*)]. OIr *silid* 'flows, let flows', Lat *siat* (crossed with *meāre*) 'urinates' (baby-talk), ON *sīga* 'glide down or forward', OE *sīgan* 'sink', *sēon* 'filter, strain, trickle' (> NE *sye*), OHG *sīhan* 'filter, strain', Grk *ἰκμάζω* 'strain, filter', *ἰκμαίνω* 'moisten', Av *hičaiti* 'sprinkles, pours out', OInd *siñcáti* 'sprinkles, pours out', TochA *sik-* 'overflow'. It is not clear that the Old Irish form belongs here and the shape of the Latin form is unexpected although its affective meaning, especially in children's language, may explain its peculiarities. The wide geographical spread of the reflexes of this word supports reconstruction to PIE.

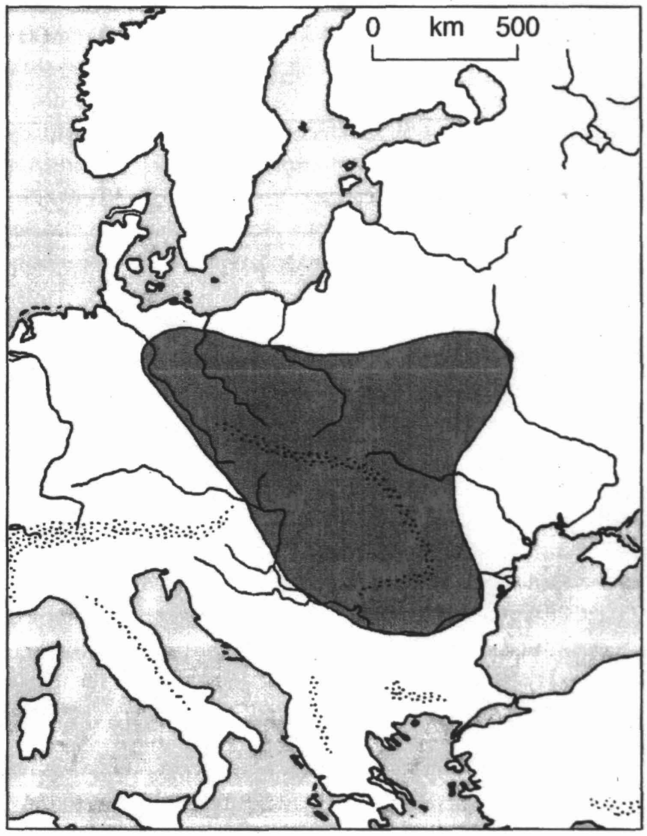
***leh$_2$-** 'pour, wet, make flow'. [BK 582 (**laħ-/*ləħ-*)]. Lat *lāma* 'bog, slough' (< *'flooded over area'), Grk *ληνός* (Doric *λᾱνός*) 'tub, trough (for watering animals), wine-vat', Hit *lahhuzi* 'overflows (intr.); pours (liquids, salts, intangibles); empties (a container) (tr.)', *lahni-* 'bottle, pitcher', TochB *lāñe* 'flood'. Perhaps Lat *lāmina* (pl.) 'thin slices, layers, leaves' belongs here too if the original meaning was 'varves' (i.e., thin layers of sediment laid down by periodic flooding). The geographical distribution of the attestations of this verb assures its antiquity in IE.

See also DRAW (WATER); FLOW; LIBATION; POT; SPRINKLE. [M.N., D.Q.A.]

POWERFUL

***k̑ouh$_1$ros ~ *k̑uh$_1$ros** 'powerful'. [*IEW* 592–593; (**k̑ou̯ə-ro-s*); Buck 4.81]. From **k̑ouh$_1$ros*: OIr *cōraid* (*DIL cora(i)d*) 'heroes', Wels *cawr* 'giant'; from **k̑uh$_1$ros*: Thracian *Σουρα-* (in proper names), Grk *κῦριος* (< an unattested **κῦρος*) 'having power', Av *sūra-* 'hero', OInd *śávīra-* 'strong', *śū́ra-* 'hero'. Derivatives, quite possibly independent in Celtic and the southeast of **k̑óuh$_1$r̥* (gen. **k̑uh$_1$rós*) 'power', itself a derivative of **k̑euh$_1$-* 'swell (with power)'.

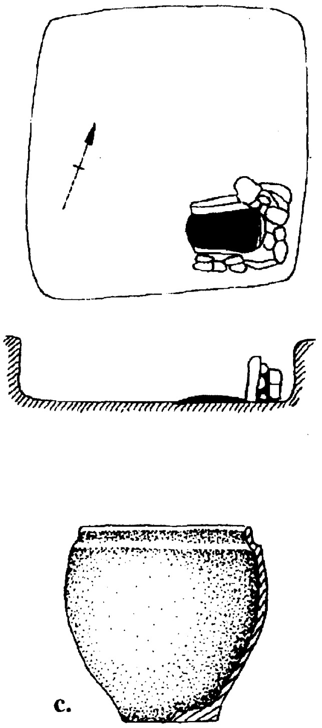
[E.C.P.]



Prague a. Distribution of the Prague culture.

PRAGUE CULTURE

The Prague culture is the northwestern variant of the Prague-Penkov-Kolochin complex of the fifth-seventh centuries AD. The Prague culture extended up the Vistula and Elbe, thus occupying the former Czechoslovakia, eastern Germany, Poland, Romania, Hungary and the Ukraine. Approximately five hundred sites are known. These include open settlements consisting of twenty to thirty houses, sometimes divided into clusters of houses that have been interpreted as the residential units of extended families. Large fortified sites are also known. Houses tend to be of small dimension and frequently include a stone built oven. Burial was by cremation in an urn or simple pit and either in a flat grave or under a tumulus. The cemeteries vary in size from several graves to two-thousand burials. The burials have been found to occur in small groups, again suggesting that the



Prague b. House plan (c. 4 to 5 m on a side) with sunken floor and characteristic oven; c. Prague vessel.

extended family was the basic social unit. The culture probably represents the archaeological expression of the early (western?) Slavic group although some see it as the primary archaeological expression of late Common Slavic speakers.

See also Kolochin Culture; Penkov Culture; Slavic Languages. [J.P.M.]

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PRAISE

***h$_1$erk^w-** 'praise'. [*IEW* 340 (*erk^u-); Wat 17 (*erk^w-); GI 822]. OIr *erc* 'heaven', Arm *erg* 'song', OInd *árcati* 'praises', Hit *arkuwai-* 'explain, answer'. Cf. *h$_1$erk^{w}ós 'song of praise': Arm *erg* 'song', Oss *arɣaw* 'tale', OInd *arká-* 'song', TochA *yärk* 'honor', TochB *yarke* 'honor'. Widespread and clearly of PIE date. It is suggested that the Middle Iranian form *ärğa- was borrowed into Finno-Ugric, e.g., Xanty *ärəɣ* 'song'.

***h$_1$eug^{w}h-** 'speak solemnly' (pres. ***h$_1$éug^{w}hetor**, aorist ***h$_1$éug^{w}hto**). [*IEW* 348 (*eu̯eg^{u}h-); Wat 74 (*weg^{w}h- ~ *eug^{w}h-); GI 705 (*Heug^{ho}-/Hweg^{ho}-)]. Grk *εὔχομαι* 'pray (for); vaunt', *εὖκτος* 'fame', *εὖκτο* 'asked', Lydian *ow-* '± proclaim', Av *aojaite* 'says, pronounces', *aoxta* 'said', OInd *óhate* 'they praise', *óhas-* 'praise'. Arm *uzem* 'wish', *y-uzem* 'seek' look like they should belong to this group on the basis of their meaning but offer phonological difficulties (Arm *-z-* should reflect PIE *-ĝh-). The correspondence between the athematic aorist in both Greek and Avestan alongside the more usual thematic formation has argued for the high antiquity of this word which is presumed to have been part of the religious vocabulary of the Indo-Europeans. The distribution of cognates suggests that it is at least late PIE.

***u̯eg^{w}h-** 'speak solemnly'. [*IEW* 348 (*u̯eg^{u}h-); Wat 74 (*weg^{w}h-); GI 705 (*Heug^{ho}-/Hweg^{ho}-)]. Lat *voveō* 'vow, promise solemnly, consecrate', Arm *gog* 'say', OInd *vāghát-* 'sacrificer, supplicant, institutor of a sacrifice'. The geographical distributions of the three attestations would seem to guarantee a PIE date for this word. It is usually, and probably rightly, connected with the previous word but the details of that connection are not altogether clear. If it were a different word, then it becomes attractive to add here Hit *huek-* 'conjure, treat by incantation'. In that case we would reconstruct a PIE *h$_{2/3}$u̯eg^{w}h-.

***g^{w}erh$_x$-** 'praise'. [*IEW* 478 (*g^{u}er(ə)-); Wat 25 (*g^{w}erə-); BK 364 (*q^{w}ur-/*q^{w}or-)]. OIr *bard* 'bard', Wels *bardd* 'bard', OPrus *girtwei* 'praise', Lith *giriù* 'praise', Latv *dzir̃tiês* 'praise', Alb *gërshas* 'invite to a marriage', Grk *γῆρυς* 'voice', Av *gar-* 'praise', OInd *gṛṇā́ti* 'sings, praises'. Cf. Lat *grātus* 'thankful', (pl.) *grātēs* 'thanks', Lith *gir̃tas* 'praised', OInd *gūrtá-* 'welcome'. Distribution clearly indicates PIE status.

***kar-** 'praise loudly'. [*IEW* 530–531 (*kar-); Wat 27 (*kar-); GI 176–177 (*k^{h}erH-)]. ON *herma* 'report', OE *hrēþ* 'fame', OHG *(h)rōd* 'fame', *hruom* 'fame', Goth *hrōþeigs* 'famous', OPrus *kirdīt* 'hear', Lith *ap-kerdžiu* 'announce', Grk *καρκαίρω* 'quake', Av *čarəkərə-* 'praise', OInd *carkarti* 'praises'. Distribution indicates PIE status.

***steu-** 'praise'. [*IEW* 1035 (*steu-)]. Grk *στεῦται* 'make a gesture or show of (doing something), promise, engage oneself, or threaten (to do something)' (< *'praise oneself'), Av *staoiti* 'praises', OInd *stáuti* 'praises'. Distribution suggests a late IE isogloss of the southeast.

See also Poet; Poetry; Pray; Sing; Speak. [D.Q.A.]

PRAY

***meldh-** 'pray, speak words to a deity'. [*IEW* 722 (*meldh-); Wat 40 (*meldh-); GI 703–704 (*meld^h-); Buck 22.17]. OE *meld(i)an* 'announce, declare, proclaim, reveal', OHG *meldōn* 'report' (borrowed > NE *meld*), Lith *meldžiù* 'pray', *maldà* 'prayer', OCS *molję* 'pray', Czech *modla* 'idol, temple', Arm *malt'em* 'pray', Hit *maldā(i)-* 'pray, invoke', *maldessar* 'prayer, invocation'. Widespread and old in IE.

***g^{w}hedh-** 'ask, pray' (pres. ***g^{w}hédhi̯e/o-**). [*IEW* 488 (*g^{u}hedh-); Wat 25 (*g^{w}hedh-); Buck 22.17]. OIr *guidid* (< *g^{w}hedhi̯e/o-) 'asks, prays', Wels *gweddi* 'prayer', Grk (Hesychius) *θέσσασθαι* 'ask, pray' (cf. the denominative *ποθέω* 'yearn for, long for' from *πόθος* 'longing, yearning, regret [for something absent]'), Av *jaiδyemi* 'ask, pray', OPers *jadiyāmi* 'ask, pray'. Probably belonging here are ON *biðja*

'ask, pray', OE *biddan* 'ask, pray' (> NE *bid*), OHG *bitten* 'ask, pray', Goth *bid(j)an* 'ask, pray', as long as it is possible that PIE *g^wh- before front vowels can be reflected by Gmc *b*-. Representing other present formations we have Lith *gedáuju* 'desire', OCS *žędǫ* 'desire'. Widespread and old in IE.

$h_{1/4}$er- 'ask the gods, consult an oracle'. [*IEW* 781 (*ōr-); Wat 46 (*ōr-); GI 703 (*or-); Buck 22.17]. Lat *ōrō* (< *$h_{1/4}$ōr-eh_a-ie/o-) 'address, solicit (the gods)', *ōrāculum* 'oracle' (< *ōrā-tlom 'place of soliciting the gods'), Osc *urust* 'he pleaded', Hit *ariya- ~ arai-* 'consult an oracle, determine by oracle'. Sometimes put here is the ambiguous OInd *āryati*, if it means 'praises', but it is more likely to mean 'acknowledges (as lord)' and be derived from *aryá-*. Perhaps a bit more plausible a connection is that with Rus *orú* 'cry out'. Though found certainly in only two stocks, their geographical distribution would seem to assure PIE status for this word.

$h_2$eru- '± pray, curse'. [GI 703 (*arw-)]. Grk ἀράομαι 'pray, vow; call down curses', ἀρή 'prayer (for evil), curse; ruin, mischief', (Arcadian) κάταρϝος 'accursed', Luv *hīrūt-* (< Proto-Anatolian *h_2ērut-) 'curse'. Though only attested in two stocks, the word is very likely to be old in IE.

telh_x- '± pray'. [GI 708]. ON *þylja* 'murmur; recite a poem', *þul-* 'string of words', *þulr* (< *t̥$h_x$ós) 'wiseman, sage, sayer of sacred rituals', OE *þyle* 'orator, speaker, jester' (< *t̥h_xi-), Hit *talliya-* (< *tólh$_x$ei + later -*iya*-?) 'appeal to a god for help'. Though sparsely attested, the agreement of Germanic and Hittite would seem to assure PIE status for this word.

The structure of the earliest attested IE prayers follows a formulaic pattern of 1) invocation, the addressing of the deity whose assistance is requested; 2) basis, the justification for why the deity should either be honored or interested in assisting; and 3) the request, the expression of the desired action, often given with an imperative verb at the end. For example, in Hittite, the fourteenth-century king Mursilis II prays: 'O Sungoddess of Arinna, my lady [invocation], the neighboring enemy lands which called me child...now try to take your borders [basis], so smite those enemy lands before me [request]'. Similarly, the Roman author Cato (*Agricultura* 132.1) prays: 'Juppiter Dapalis [invocation], because it is fitting that a cup of wine be offered you in sacrifice at my house by my family, for this reason thus [basis], be honored by this sacrifice which is about to be made [request]'. In the *Iliad* (3.298–301) a similar structure is evident when the Greek troops pray: 'Zeus, most glorious, greatest, and the other immortal gods [invocation], whichever first violates the oaths [basis], may his and his children's brains pour to the ground [request]...'.

See also Ask; Sing. [D.Q.A., J.P.M.]

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PREPARE

sep- 'handle (skillfully), hold (reverently)'. [*IEW* 909 (*sep-); GI 728 (*sep^h-); Wat 58 (*sep-)]. Grk ἕπω 'serve, prepare', μεθέπω ~ ἐφέπω 'manage [horses]', Av *hap-* 'hold', OInd *sápati* 'touches, handles, caresses; venerates', *sápti-* 'team of horses'. A derivative *sepelie/o- is seen in Lat *sepeliō* 'bury' (as opposed to cremate), *sepulcrum* 'tomb', OInd *saparyáti* 'honors, upholds'.

k̑meh_a- 'made, prepared'. [*IEW* 557 (*k̑em(ə)-); cf. Wat 29 (*kemə-); Buck 9.13]. Grk -κμητός 'made, worked' (e.g., ἀνδρόκμητος 'man-made'), OInd *śamitá-* 'prepared'. From *k̑emh_a- 'become tired' (intrans.), 'work' (trans.). As it is attested only in Greek and Old Indic, it may be a late IE isogloss.

See also Death; Put in Order. [M.N., D.Q.A.]

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PRESS

prem- 'press down or back'. [VW 390]. Lat *premere* 'press down, press upon, squeeze', TochB *prām-* '± restrain, hold back'. Not widely attested but the geographical distribution of those attestations would strongly suggest PIE status for the word.

gem- 'press, squeeze together, squeeze'. [*IEW* 368–369 (*gem-); BK 278 (*k'um-/*k'om-)]. MIr *gemel* 'fetters', Umb *gomia* 'pregnant', OE *cuml ~ cumul* 'swelling, wound', Lith *gùmstu* 'seize, grasp', OCS *žimǫ* 'press', Rus *gomóla* 'lump, heap', Grk γέμω 'am full', Arm *čmlem* 'press together'. A word of the west and center of the IE world.

?*māk- 'press'. [*IEW* 698 (*māk-); Wat 38 (*māg-); BK 548 (*mak'-/*mək'-)]. Lat *mācerō* 'tenderize by marination', Latv *màkt* 'oppress, depress', Czech *mačkati* 'press, squeeze'. Attested only in three western and central stocks, and there with clearly divergent meanings. It is possible that it is a variant of *mag̑- 'work with hands, form, shape' but, if so, it is both phonologically (*-k- rather than *-g̑-) and semantically divergent.

menk- 'press'. [*IEW* 730–731 (*men(ə)k-)]. ON *mengja* 'mingle, mix, blend', OE *mengan* 'mix', OHG *mengen* 'mix', Lith *mìnkyti* 'knead, touch', OCS *mękŭkŭ* 'soft, delicate', Grk μάσσω 'knead', OInd *mácate* 'bruises, crushes'. The Greek form could derive from this root or *mak-; the Old Indic is not attested in texts but only in a list of verbs. Possibly related to *māk- above.

bhrak- 'squeeze together, make firm' (pres. ***bhrakie/o-***). [*IEW* 110–111 (*$bharek^u$-); Wat 9 (*$bhrek^w$-)]. MIr *barc* 'storm, fury', Lat *farciō* 'feed, fatten', *fartus* (< *farctus) 'thick', Grk φράσσω 'fill quite full, close, push together; make a fence around, defend', φρακτός 'closed', TochA *prākär* 'firm', TochB

prākre 'firm'. Sufficiently widespread to be a good candidate for PIE status despite certain phonological difficulties (**bhrak-* or **bhrh̥$_a$k-*?).

***treud-** 'thrust, press' (pres. ***tréude/o-**). [*IEW* 1095–1096 (**tr-eu-d-*); Wat 72 (**treud-*); BK 110 (**t[^{h}]ur-/*t[^{h}]or-*)]. OIr *trom* (< **trud-smo-*) 'oppressive', Lat *trūdō* 'thrust, push away', ON *þrjōta* 'tire', OE *(ā-)þrēotan* 'tire, become disagreeable', OHG *ar-driozan* ~ *bi-driozan* 'oppress, trouble', Goth *us-þriutan* 'bother, persecute', OCS *trudĭ* 'trouble', *truditi sę* 'exert oneself', Alb *tredh* 'castrate'. At least a word of the west and center of the IE world.

***kem-** '± press together'. [*IEW* 555 (**kem-*); Wat 29 (**kem-*); BK 202 (**ṭ[^{h}]im-/*ṭ[^{h}]em-*)]. ON *hemja* 'restrain', ME *hamp(e)ren* 'hamper', OPrus *kūmpinna* 'hinder', Lith *kamúoti* 'press together', Latv *kamuôt* 'torment', Rus *komítĭ* 'press into a ball', Grk *κῶμος* 'band of revelers, festival procession', Arm *k'amel* 'press, squeeze, filter'. At least a word of the west and center of the IE world.

***gen-** '± compress'. [*IEW* 370–373 (**gen-*); Wat 19 (**gen-*); BK 311 (**k'un-/*k'on-*)]. A "pseudo-root" of sorts which, enlarged, gives a large number of at least semi-onomatopoetic verbs, principally in Germanic but sometimes also to be found in neighboring stocks. Attested both in Germanic and outside of it are: (1) **gneu-* in ON *knýja* 'squeeze, strike', OE *cnū(w)ian* 'pound in a mortar', *cnēowian* 'copulate', SC *gnjáviti* 'squeeze'; (2) **gneuĝ-* in OE *cnocian* ~ *cnucian* 'knock, pound in a mortar' (> NE *knock*), Lith *gniáužiu* 'squeeze something tight in the hand'; (3) **gneibh-* in ON *kneif* a kind of pincers, *knīfr* 'knife', OE *cnīf* 'knife' (> NE *knife*), Lith *gnýbu* ~ *gnáibau* 'pinch (with fingers or pincers)'. Similar is the case of **ken-* in **kneug/k-* [*IEW* 558–559 (**ken-*), Wat 29 (**ken-*)] in OIr *cnocc* 'lump, ball', OBret *cnoch* 'tumulus', ON *hnūka* 'sit cowering', OE *hnocc* 'penis', Latv *knaũķis* 'dwarf', Grk (Hesychius) *κνυζόω* 'draw together'.

***puḱ-** 'press together'. [*IEW* 849 (**puḱ-*)]. Alb *puth* 'kiss', Grk *ἄμπυξ* (< **ana-puks*) 'diadem', Av *pusā-* 'headband, diadem'. At least a word of the center and east of the IE world.

***pisd-** 'press'. [*IEW* 887 (**pi-s(e)d-*)]. Grk *πιέζω* 'press', OInd *pīḍáyati* 'presses, squeezes'. Dialectally limited to two stocks that show numerous late isoglosses. This root has been derived either from **pis-* 'crush, pound' or from **h$_1$epi-* and the root **sed-* 'sit', the first appearing the more probable.

?*greut- '± compress'. [*IEW* 406 (**greut-*)]. OIr *gruth* 'curds, cheese', OE (with new lengthened grade) *crūdan* 'press, crowd' (> NE *crowd*). Only sparsely attested. Perhaps a dialect word of the IE northwest.

?*tu̯enĝh- '± press, force'. [*IEW* 1099–1100 (**tuenĝh-*); Wat 72 (**twengh-*)]. ON *þvinga* 'force, torment', OE *twengan* 'pinch', *þwang* 'thong, band' (> NE *thong*), OHG *dwingan* 'force', Av *θwązjaiti* (< **tu̯enĝh-sḱe/o-*) 'falls into distress'. The initial *t-* in OE *twengan* is unexpected while the etymological connection with Avestan is very uncertain. Not clearly reconstructed to PIE.

See also Push; Work. [M.N., D.Q.A.]

PRICE *see* EXCHANGE

PRICK

***steig-** 'prick'. [*IEW* 1016–1017 (**(s)teig-*); Wat 65 (**steig-*); GI 102]. Lat *īn-stīgō* 'goad', OE *stician* 'prick' (> NE *stick*), *stice* 'sting, prick, stab' (> NE *stitch*), OHG *sticken* 'stick, stab', *stehhōn* 'stick, stab', Goth *stiks* 'sticking, stab', Grk *στίζω* (< **stig-i̯e/o-*) 'prick, tattoo', Av *bi-taēγa-* 'having two edges', *taēža-* 'point, sharp', OInd *téjate* 'is sharp, makes sharp'. Well attested and can be reconstructed to PIE.

***geid-** 'tickle'. [*IEW* 356 (**geid-*)]. ON *kitla* 'tickle', OE *citelian* 'tickle', *citelung* 'tickling', OHG *kitzilon* 'tickle', Arm *kcem* (< **gidi̯e/o-*) 'tickle, scratch (an itch)', *kcanem* 'prick, bite'. Attested in the west and central region of the IE world.

***kel-** 'prick'. [*IEW* 545 (**kel-*); Wat 28 (**kel-*)]. OIr *cuilenn* (< **kolinos*) 'holly', Wels *celyn* 'holly', ON *hulfr* 'holly', OE *holen* 'holly' (> NE *holly*), OHG *hulis* 'holly', OCS *klasŭ* 'ear of grain', Alb *kallí* 'straw, chaff', OInd *kaṭamba-* (< **kol-to-*) 'arrow'. The verbal root **kel-* is abstracted entirely from its nominal derivatives which have in common spikiness or sharpness. It is possible that this root is related to **kel-* 'cut'.

***peug-** 'prick, poke'. [*IEW* 828 (**peuḱ-* ~ **peuĝ-*); Wat 51 (**peuk-* ~ **peug-*)]. Lat *pungō* (with nasal infix) 'prick', Grk *πυγμή* 'fist'. Attempts have been made to relate this word to the tree-name **péuḱs* 'pine' which has been treated as a variant of this root but the pine word is securely reconstructible while **peug-* is known only from two languages.

See also Pierce. [M.N.]

PRIEST

There is no solid lexical evidence to support the reconstruction of a PIE term for 'priest'. There are, however, a series of possible cognates that have been occasionally cited as suggesting the existence of an IE priest class.

***kouh$_1$éi(s)** 'seer, priest, poet'. [*IEW* 578–579 (**keu-*); GI 734–735 (**k^{h}e/ou-*); Wat 30 (**keu-*)]. Grk (Hesychius) *κόης* ~ *κοίης* 'priest of the Samothracian mysteries', Lydian *kaveś* 'priest', Av *kavā* (< **kouh$_1$éi*) (designation of daēvish princes), OInd *kaví-* 'skillful, wise; seer, sage, poet'. At least dialectally present in PIE. From **(s)keuh$_1$-* 'perceive'.

?*bhlaĝhmēn 'priest'. [*IEW* 154 (**bhlagh-men-*); Wat 9 (**bhlagh-men-*); GI 690 (**b^{h}lāg^h-men-*)]. Lat *flāmen* 'priest', *flāmōnium* 'the office of a flamen', Messapic *βλαμινι* 'priest', OPers *brazman-* 'appropriate form, appearance', OInd *brahmán-* 'priest', *bráhmaṇyam* 'the state or rank of a brahmán'. This comparison is much disputed as there is no evident reflex of PIE **-ĝh-* in the Latin form (??? < **flaĝs-men*) and the root to which the suffix **-men* is added is otherwise opaque in both the putative descendant stocks and PIE. It has been suggested that the Latin form may rather be cognate with ON *blōta* 'sacrifice', OE *blōtan* 'sacrifice', OHG *blōzan* 'sacrifice', Goth *blōtan* 'sacrifice'. The Germanic and Latin words would then reflect different enlargements of **bhel-* 'swell' in its metaphoric meaning of 'strengthen' (i.e., strengthening the gods through sacrifice). The word in the

east has thus been regarded as purely Indo-Iranian which has also been connected with ON *bragr* 'poetry' from a putative **bhreĝh-*. Under this hypothesis the original meaning for the Indic word would have been '± speaker of the [ritual] formula, poet, performer of sacrifices'.

p(o)nt- + *dheh₁-/*kʷer- 'priest' < *'way-setter/maker'. Lat *pontifex* 'one who makes a way (to the gods), high-priest', OInd *pathi-kŕt-* 'path-maker' but also a religious title applied to priests. Although clearly not a PIE compound because of the diverse verbal element in Latin and Old Indic, it is perhaps possible that these both derive from a common underlying concept.

?*h₂eug- 'increase'. [*IEW* 84 (**aug-*); Wat 4 (**aug-*)]. Lat *augur* 'seer, soothsayer', OInd *ójas-* 'strength, power'. In the context of Indic literature this 'force' is clearly associated with the warrior function and is seen as a well of energy upon which the warriors, usually Indra or the Maruts, may draw. In Latin tradition, it is the priest who may draw upon this 'power' and distribute it ritually within the context not only of the warrior class but also for religious or agricultural purposes. The correspondences are not wide-ranging although they do occur between two language stocks well separated in space.

??*bhertōr 'priest' (< *'one who bears [offerings?]'). [*IEW* 129–130 (**bher-tō/or*); Wat 7 (**bher-*); BK 6 (**bar-/*bər-*)]. Umb *ars-fertur* 'priest', Av *fra-bərətar-* 'priest'. From **bher-* 'carry'. The Italic-Iranian agreement may reflect something of PIE age but could also be taken as independent developments.

Indo-European Priesthoods

Although the lexical evidence for the existence of a PIE priest is inadequate, comparative data (indicated in the accompanying table) concerning the behavior of the Indic *brahmán* and the Roman *Flāmen Diālis* suggests a number of correspondences concerning proscriptive behavior that hint at an earlier inherited core.

The trifunctional ideology of the Indo-Europeans is believed to have been inherited in the Roman priest class which was "functionally" divided into the *Flāmen Diālis* (priests concerned with the cosmic and social issues of religious practice), the *Flāmen Martiālis* who were concerned with warfare, the army and terrestrial deities, and the *Flāmen Quirīnālis*, who invoked the deities of the underworld to assist in protecting the fertility of the crops and similar agricultural pursuits.

The Priest Function

Within the system of IE ideology reconstructed by Georges Dumézil, the religious "function" in society is represented by a duality, generally represented by two deities. One of these reflects the magico-religious nature of the function while the other is more concerned with the specific application of religious sanction to human society, in particular to contracts. The underlying religious system is supported essentially by similar structural features in the mythologies of various IE-speaking peoples but generally lacks linguistic support.

The Indic evidence for this system is focused on the dual deities Varuṇa and Mitra whose names are given frequently in the form of a *devata dvandva*, a compound, such as Mitrá-Varuṇā or, in the dual form Mitrá, i.e., 'Mitra and the other one'. The name Varuṇa derives from the root *vṛ-* 'enclose, confine' and Varuṇa exercises his magic powers through the use of spells and snares. He is charged with the maintenance of *ṛtá-* '(divine) order' which underlies the forces of the cosmos. He has an association with water (he later becomes a sea god and the motif of swearing by water is perhaps related to the Greek tradition of swearing by the river Styx), and this association is reflected in his specific punishment of inflicting 'water belly disease', i.e., dropsy. The name of Mitra, to whom only one hymn of the *Ṛgveda* is dedicated (*RV* 3.59), is related to *mitrám* 'contract' < **mī-* 'exchange' or **mi-* 'set up, fix'. This name would comprise a semantic field involving contracts, legality, which are beneficial to mankind. He and a series of auxiliary deities are seen to insure the proper contraction of relationships, e.g., legal, marriage, in human society. The "epicization" of Indic myth, as reflected in the *Mahābārata* translates Varuṇa (who in *Atharvaveda* 4.4,1 is stricken with impotency) into Pāṇḍu (who has been inflicted with punishments, pallor, and impotence) while Mitra is seen to underlie Yudhiṣṭira, law king, who assumes the guise of a brahmán in the court of Matsya.

In Iranian tradition, where the Indo-Iranian deities were reconstituted as abstractions in the reforms of Zaraθuštra, the magico-religious figure is seen to lie behind Ahura Mazdāh: 'Lord Wise', who, like Varuṇa, possessed the element **Asura* (in Iranian we find the compound Miθra-Ahura, cf. Mitra-Varuṇa) and Varuṇa is also described as *médhira-* 'wise', where Vedic *medhā́* is cognate with Avestan *mazdā-* 'wise'. Further support for the correspondence derives from Ahura Mazdāh's essence, Aša Vasišta, where the first element is cognate with Vedic *ṛtá-*, the divine order Varuṇa was charged to maintain and Vasišta is clearly to be associated with Varuṇa's son Vasiṣṭa. The second partner is reflected lexically as Miθra which, in Iranian, originally indicated 'contract' like his Indic counterpart, but later developed the meaning 'friend' and finally evolved into a multi-purpose deity who absorbed not only Varuṇa's duties, but also those of the War god and the Sun god. The abstraction Vohu Manah 'good thought' more properly reflects the Mithraic character in his relations to human society.

In Roman tradition, the presumably inherited IE priestly deity crossed with the Sky god to yield Jūpiter whose various duties were increased to such an extent that it is difficult to isolate his original role. In general, he would seem to represent the Varunaic side of the priestly function while the Mithraic may be seen in Diūs Fidius ('faith'), the deity who protected both the sanctity of oaths and the laws of hospitality. As with Indic literature, so also Roman mythology was incrypted in the early histories of Rome where the dual nature of the priestly function has been claimed to underlie the characters of Rome's

	Brahmán	Flāmen Diālis
1.	cannot be killed	cannot have hands laid upon him
2.	cannot be compelled as witness	cannot be compelled to swear oath
3.	must avoid smoke of funeral pyre	most not approach funeral pyre
4.	must not drink alcohol	must avoid intoxicants
5.	must not touch unsacrificed meat	must not touch raw meat
6.	other than head, must not have oil on body	must not rub himself with oil outdoors
7.	must cease religious activitity at time of warfare	must not see army
8.	must not study on horseback	must not mount or touch horse
9.	must not read Vedas when he hears barking dog, avoid dogs	must not touch or mention dog
10.	never be naked nor see wife so	must always have some priestly sign on

Priest Prohibitions of Indic and Roman priest classes.

first rulers. Rōmulus not only founded the city and served as first king but also as an augur, who established correct religious practice, was associated with the supernatural powers of priests, and whose divine protector was Jūpiter. Although Numa is represented as his chronological successor, this representation is regarded as historicized myth and the second king, prominent as a lawgiver, who organized the annual Fidēs 'contract' ceremony, is taken to be a projection of Diūs Fidius.

The distinction between a god of magic and spells and another of oaths and contracts is replicated in other characters of early Roman pseudo-history. The Roman soldier, Horātius Coclēs (one-eyed), one of three brothers, was forced to defeat the three Curātii of Alba. Although the tale relates how Horātius separated each of his three opponents by pretending to flee, both the etymology of his name and his "evil-eye" are also credited with magically discouraging his opponents. His Mithraic counterpart is seen in Mūcius Scaevola ('left-handed') who attempted to assassinate the Etruscan king and when apprehended, swore with his right-hand in a bed of coals that three-hundred further assassins had also infiltrated the Etruscan camp. The (false) confession associates Mūcius with oaths and contracts, the domain of the Mithraic figure.

The distinction between a divinity possessing a baleful eye and another lacking a hand by which oaths are sworn is reflected to some extent in both Germanic and Celtic mythologies. Although the priest function appears to have been lost among the early Germanic peoples, the functional ideology persisted in Scandinavian myth with Ōðinn who gave up one of his eyes in order to acquire the gift of seeing the future and the god Tȳr who lost his hand making a false oath in order to secure the wolf Fenrir long enough to have it bound. The identification of Tȳr as the "contract deity" is further secured by his Old English congener Tīw (whence Tues-day) who was patron of the assembly like his Roman cognate Diūs Fidius. The Irish counterpart is seen as Lug who dances about the host of Formorians on one foot and with one-eye closed (and their own leader Balor who possessed an enormous eye capable of inflicting death at a distance which Lug puts out) and Nūadu, the king who has lost his hand in a battle and requires a silver prosthesis to make him whole enough again that he may serve as king. Like Ōðinn, Lug is also strongly associated with the raven. A further euhemerization of Lug is found in Finn mac Cumaill who is also associated with ravens and must deal with Goll mac Morna, a one-eyed monster who burns down Tara.

There are some lexical associations among these west IE stocks as Ōðinn's name derives from **Wātónos* 'raving, possessed' and is cognate with Lat *vātēs* 'foreteller, seer' and OIr *fāith* 'ecstatic bard'. The evidence of a "threefold death" in western Europe also supports the identification of the priestly figures in the respective pantheons where the Norse Ōðinn is associated with death by hanging (he is the *hangagoð* 'hanging god') and Roman sources indicate that the Continental Celts employed hanging in sacrifices to the god Esus ('lord').

There is little evidence for the priest figure in Baltic folklore other than perhaps figures such as the Lithuanian Vēlinas 'ghost, devil' who is one eyed, prophetic, raging god of the *veles* (ghosts) and the Old Prussian Pecullus (Patollo or Patollus).

See also Comparative Mythology; Cosmogony; Cosmology; Eschatology; Pray; Sacrifice. [D.Q.A.; J.P.M.]

Further Readings

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PROFIT *see* EXCHANGE

PROJECT

****bhar-*** 'projection'. [*IEW* 108–109 (**bhar-*); Wat 5 (**bhar-*); BK 5 (**bar-/*bər-*)]. From **bhar-ko-*: MIr *barc* (< **bhar-ko-*) 'spear shaft', Wels *barch* 'spear', SC *bȓk* 'point'; perhaps from **bhar-(es)-* 'barley, grain' we have OIr *bairgen* (< **baragen-)* 'bread', Wels *bara* 'bread', Lat *fār* 'spelt, grain', ON *barr* 'grain', OE *bere* 'barley' (> NE *barley*, i.e., *bere* +

līc 'ly'), Goth *bariz-eins* 'made of barley'. It has been suggested that all of these substantives are derived from a verbal root **bhar-* 'protrude' but since all the forms are nominal, it makes better sense to reconstruct a nominal form 'projection' to the proto-language. The extended form **bhar-es-* 'barley' may be based on this root as well.

***men-** 'project'. [*IEW* 726 (**men-*); Wat 41 (**men-*); BK 533 (**mun-/*mon-*)]. Wels *mant* 'mouth, lip', Lat *prō-mineō* 'stand out, project', *mentum* 'chin', Hit *mēni-* 'face, cheek', Av *fra-manyente* 'gain prominence'. The close structural and semantic correspondences over the few languages, so widely distributed, suggests PIE status.

See also BARLEY. [M.N.]

PRONOUNS

Personal Pronouns

Personal pronouns for the first and second persons, singular, dual, and plural, can be reconstructed for PIE. In addition, it is possible to reconstruct a general reflexive personal pronoun which might refer back to any person (first, second, or third) or number. Except for the third person use of the reflexive pronoun, PIE did not have real third person pronouns but rather used various demonstrative pronouns (i.e., 'this' or 'that') when a third personal pronominal reference was needed. Formally, the first and second person pronouns are distinctive in that they have independent shapes for nominative and non-nominative cases (e.g., **h_1eĝ* and **$h_1$eme-* in the first person singular, **tūh$_x$* and **te* in the second person singular, **u̯éi* and **nos-* in the first person plural, **i̯uh$_x$s* and **u̯os-* in the second person plural). The presence of **u̯-* in both the first and second persons plural has suggested to some that at some very early stage of Indo-European there may have been a distinction, as there is in many languages, between a first person plural *exclusive* ('we', i.e., 'I and some others but not you') whose form would be **u̯e-*, and a first person *inclusive* ('we', i.e., 'I and you') whose form would be **ne-*. Under this hypothesis, when the inclusive/exclusive distinction collapsed, the form **u̯e-* was reassigned as both a first person plural (nominative) and a second person plural (non-nominative). Such a hypothesis is certainly possible but by no means certain.

First Person

***h_1eĝ** 'I' (emphatic ***h_1eĝóm**), ***$h_1$éme** 'me' (enclitic ***$h_1$me**, emphatic ***h_1mēm** [< ***$h_1$me-em**] ~ ***$h_1$mé-ĝe**) (gen. ***$h_1$meme**, dat. ***$h_1$méĝhi**). [*IEW* 291 (**eĝ-*, **eĝ(h)om*), 702 (**me-*); Wat 16 (**eg*), 39 (**me-*); GI 32 (**eK'-*); BK 433 (**a-/*ə-*)]. OIr *mē* 'I', Wels *mi* (poss. adj. *fy^N*), Lat *ego* 'I', *mē* 'me' (poss. adj. *meus* 'my', dat. *mihi*), Venetic *eχo* 'I', *meχo* 'me', Runic *ek(a)* (< **h_1eĝ[óm]*) 'I', ON *ek* 'I', *mik* 'me' (poss. adj. *mīn* 'my'), OE *ic* 'I' (> NE *I*), *mē* (> NE *me*) ~ *mec* 'me' (poss. adj. *mīn* 'my') [> NE *mine*], OHG *ih* 'I', *mih* 'me' (poss. adj. *mīn* 'my'), Goth *ik* 'I', *mik* 'me' (poss. adj. *meins* 'my')(Gmc **mek* < **$h_1$mé-ĝe*), OPrus *es* ~ *as* 'I', Lith *aš* 'I', *manę* 'me' (enclitic *-m*; poss. adj. *mānas*), Latv *es* 'I', *mani* 'me', OCS **(j)azŭ* (< **h_1eĝóm*) 'I', *mę* (< **h_1mēm*) 'me' (gen. *mene*), Alb *unë* (< **uĝ[om]*? + *-në*) 'I', *mua* (< **h_1mēm*) 'me' (enclitic *më*), Grk *ἐγώ(ν)* 'I', *ἐμέ* 'me' (emphatic *ἐμέγε*, enclitic *με*, poss. adj. *ἐμός* 'my'), Arm *es* (< **ec*) 'I', *z-is* (< **-ins* < **$h_1$eme-ĝe*?) 'me'; (gen. *im* < **$h_1$emos*), Hit *ūg* (< Proto-Anatolian **ūĝ*) 'I', *ammuk* (< Proto-Anatolian **ému* + **-ĝ*) 'me' (enclitic *-mu*), HierLuv *(á-)mu* 'I, me', Lycian *amu* ~ *ēmu* 'I, me', Av *azəm* ~ *az* 'I', *mā* 'me' (gen. *mə.nā* [= /mana/]), OPers *adam* 'I', OInd *ahám* 'I', *mā́m* (< **h_1mēm*) 'me' (enclitic *mā*, gen. *máma*, dat. *máhyam*), TochA *ñuk* (< **-uĝ?*) 'I, me (female speaking)', (enclitic *-ñi*), TochB *ñaś* (< **$h_1$mé-ĝe*) 'I, me' (enclitic *-ñ*). Widespread and old in IE. In many stocks there has been a tendency to replace the nominative forms by old accusatives (Celtic, Anatolian, Tocharian). Tocharian, for obscure reasons, has replaced the original **-m-* by **-n-*. In Anatolian the vowel **-u-* has spread from the second person singular; the same spread is also to be seen possibly in Albanian and Tocharian. The second person singular emphatic **tuh$_x$-óm* was re-analyzed as **tu-h$_x$óm* in Indic, leading to **h_1eĝ-h$_x$óm* (> OInd *ahám*) rather than **h_1eĝóm*.

***nóh$_1$** 'we two, us two', ***n̥h$_1$u̯é** 'us two'. [*IEW* 758 (**ne-* ~ **nō-*), 1114 (**u̯ĕ-*)]. ON *vit* 'we two', *okkr* 'us two', OE *wit* 'we two', *unc* ~ *uncet* 'us two', Goth *wit* 'we two', *ugkis* 'us two' (Gmc < **u̯edu* 'we-two' and **n̥h$_1$u̯é(s)* with "hardening" of the laryngeal to **-k-*), Lith *mùdu* 'we two, us two' (dial. *vèdu* 'we two'), *nuodu* 'us two' (only the latter is an inheritance), OCS *vě* 'we two', *na* 'us two' (gen. *naju*), Grk *νώ* 'we two, us two', OInd *āvā́m* 'we two, us two' (gen. *āvajos*), TochB *wene* 'we two, us two' (rebuilt after the first person plural with the addition of the productive dual ending *-ne*). Widespread and old in IE.

***u̯éi** 'we' (emphatic ***u̯ei̯óm**), ***n̥smé** 'us' (enclitic ***nos**). [*IEW* 758 (**ne-* ~ **nō-*), 1114 (**u̯ĕ-*); Wat 44 (**nes-*), 73 (**we-*); GI 254 (**wei-*, **mes*); BK 564(**na-/*nə-*), 475(**wa-/*wə-*)]. OIr *nī* 'we, us', Wels *ni* 'we, us', Lat *nōs* 'we, us' (poss. adj. *noster*), ON *vēr* 'we', *oss* 'us', OE *wē* 'we' (> NE *we*), *ūs* (> NE *us*) ~ *ūsic* 'us', OHG *wir* 'we', *unsih* 'us', Goth *weis* 'we', *uns* 'us' (Gmc **weis* < **u̯éi(e)s*), OPrus *mes* 'we', *mans* 'us' (gen. *noūson*), Lith *mēs* 'we', *mùs* 'us' (gen. *mū́sų*), Latv *mēs* 'we', *mūs* 'us' (gen. *mūsu*) (Lithuanian and Latvian accusative [and genitive] from **muns*, rebuilt on the basis of the second person plural), OCS *my* 'we', *ny* 'us' (gen. *nasŭ*), Alb *ne* (< **nōs*) 'we, us' (enclitic *na* < **nos*), Grk *ἡμεῖς* (Aeolic *ἄμμες*) 'we', *ἡμέας* (Aeolic *ἄμμε*) 'us' (Grk < **n̥smé(s)*), Arm *mek'* 'we', *z-mez* 'us' (gen. *mer*), Hit *wēs* (< **u̯ei(e)s*), 'we', *anzās* (< **n̥sós* with the **-m-* lost by dissimilation from the proceeding **-n-*?) 'us' (enclitic *-nas*), Av *vaēm* (= /vayam/) 'we', *asma* 'us' (enclitic *nāh*), OPers *vayam* 'we', OInd *vayám* 'we', *asmā́n* 'us' (enclitic *nas*), TochA *was* 'we, us' (enclitic *-m*), TochB *wes* 'we, us' (enclitic *-me*) (Toch < a conflation of **u̯ei(e)s* and **nos*; enclitic < **n̥smós* with loss of the first syllable). Widespread and old in IE. Note that in a central innovating area comprised of Baltic, Slavic, and Armenian the expected initial **n-* has been replaced by *m-*, either by the analogy of the first person singular pronoun or because

of the influence of the first person plural verbal endings in *-m-, or both.

Second Person

***túh$_x$** 'thou' (emphatic ***tuh$_x$óm**), ***téu̯e** 'thee' (enclitic ***te**, emphatic ***tu̯ém** [< ***tu̯e-em**]; gen. ***téu̯e**). [*IEW* 1097–1098 (*tū); Wat 72 (*tu-); GI 194 (*t^{h}we-/*t^{h}u); BK 102 (*t[^{h}]i/ *t[^{h}]e)]. OIr *tū* 'thou, thee', Wels *ti* 'thou, thee', Lat *tū* 'thou', *tē* 'thee', ON *þū* 'thee' (poss. adj. *þīn*), OE *þū* 'thou' (> NE *thou*), *þe* (> NE *thee*) ~ *þic* 'thee' (poss. adj. *þīn*) [> NE *thine*], OHG *du* 'thou', *dih* 'thee' (poss. adj. *dīn*), Goth *þu* 'thou', *þuk* 'thee' (poss. adj. *þeins*), OPrus *toū* ~ *tu* 'thou', *tien* 'thee' (poss. adj. *tais* 'thy'), Lith *tù* 'thou', *tavę̃* 'thee' (poss. adj. *tãvas*), Latv *tu* 'thou', *tevi* 'thee', OCS *ty* 'thou', *tę* 'thee' (gen. *tebe*), Alb *ti* 'thou', *ty* 'thee' (enclitic *të*), Grk *σύ* 'thou' (with *s-* on the analogy of the accusative, etc.; Doric *τύ* 'thou'), *σέ* (< *tu̯é) 'thou' (enclitic *σε*), Arm *du* 'thou', *z-k'ez* (< *tu̯e-) 'thee' (poss. adj. *k'o* [< *tu̯ós]), Hit *zīg* 'thou' (with not well-understood *-ī-*; the *-g* comes from the first person singular), *tug* 'thee', Palaic *tī* 'thou', *tū* 'thee', Av *tvəm* (= /tuHam/) ~ *tū* 'thou', *θvām* 'thee', OPers *tuvam* 'thou', OInd *tvám* thou', *tvā́m* 'thee' (Indo-Iranian < *tuh$_x$óm and *tu̯ém), TochA *tu* 'thou', *cu* 'thee' (enclitic *-ci*), TochB *tuwe* 'thou', *ci* 'thee' (enclitic *-c*) (Toch < *tuh$_x$óm, *téu̯e, *te). Widespread and old in IE. The difference between nominative and accusative stems is better preserved in the second person singular than in the first person singular or in the first and second persons plural.

***u̯óh$_1$** 'ye two, you two', ***uh$_1$u̯é** 'you two'. [*IEW* 513–514 (*u̯ēs- ~ *u̯ōs-)]. ON *it* 'ye two', *ykkr* 'you two', OE *git* 'ye two', *inc* ~ *incit* 'you two', Goth **jut* 'ye two', *igkis* 'you two' (Gmc < *inkwis 'you two' < *uh$_1$u̯és with the same substitution of *i- for *u- as in the accusative plural, the introduction of *-n- from the first person dual, and the same hardening of *-h$_1$- to -k- as in the first person dual), Lith *jùdu* 'ye/you two' (Germanic and Baltic rebuilt on the analogy of the second person plural), OCS *va* (< *u̯oh$_1$) 'ye/you two' (gen. *vaju*), OInd *yuvā́m* (< *uh$_1$u̯é-em with *y-* from the nominative second person plural) 'ye/you two' (enclitic *vām*, gen. *yuvā́jos*), TochB *yene* 'ye/you two' (rebuilt after the second person plural with the addition of the productive dual ending *-ne*). Widespread and old in IE.

***i̯uh$_x$s** 'ye', ***usu̯é** ~ ***su̯é** 'you' (enclitic ***u̯os**). [*IEW* 513–514 (*iu-); Wat 79 (*yu-); GI 254 (*wōs)]. OIr *sī* 'ye, you', Wels *chwi* 'ye, you' (Celtic < *su̯és), Lat *vōs* 'ye, you' (poss. adj. *vester*), ON *ēr* 'we', *yðr* ~ *yð(v)ar* 'you', OE *gē* 'ye' (> NE *ye*), *ēow* 'you' (> NE *you*), OHG *ir* 'ye', *iuwih* 'you', Goth *jūs* 'ye', *izwis* 'you' (except in Gothic the Germanic nom. has been rebuilt on the analogy of the first person plural; the acc. comes from Proto-Gmc *izwis, preserved as such in Gothic but with the *-z- dissimilated to *-ð-* in North Gmc, to *-w-* in West Gmc), OPrus *ioūs* 'ye', *wans* 'you' (gen. *iouson*), Lith *jū̃s* 'ye', *jus* 'you' (gen. *jū́sų*), Latv *jūs* 'ye, you' (gen. *jūsu*), OCS *vy* 'ye, you' (gen. *vasŭ*) (OCS *vy* and OPrus *wans* < *u̯ons with *-ns on the analogy of the nominal accusative plural ending), Alb *ju* 'ye' (enclitic *ju* ~ *u*)(Alb < *(u)su̯es?), Grk *ὑμεῖς* 'ye' (Aeolic *ὔμμες*), *ὑμέας* 'you' (Aeolic *ὔμμε*), *σφώ* (< *s-bhō) 'ye/you two', Arm *i-jez* 'you' (gen. *jer*, the nom. *duk'* is a pluralization of the singular *du*), Hit *sumēs* (< *suu̯ḗs) 'ye, you', Av *yūš* ~ *yūžəm* 'ye', *xšma* ~ *yušma* 'you' (enclitic *vāh*), OInd *yūyám* 'ye', *yuṣmā́n* 'you' (enclitic *vas*), TochA *yas* 'ye, you', TochB *yes* 'ye, you' (enclitic *-me*)(Toch *yas/yes* is a conflation of *i̯uh$_x$s and *u̯os; enclitic *-me* < *smos). Widespread and old in IE. In a southeastern group comprising Greek, Indo-Iranian, and Tocharian, *usu̯é was replaced by *usmé by analogy with the first person plural *n̥smé. In Germanic the initial vowel of *usu̯é was replaced by *i- after *i̯uh$_x$s; Indo-Iranian tends to replace it by *i̯u-. Celtic, Italic, Slavic, Albanian, Greek, and Anatolian replace the nominative by the accusative while East Baltic (Lithuanian and Latvian) replace the accusative with the nominative.

Reflexive Pronoun

***séu̯e** (acc.) '-self' (enclitic ***se**, emphatic ***su̯ém** [< ***su̯e-em**]; gen. ***séu̯e**). [*IEW* 882 (*seu̯e-); Wat 67–68 (*s(w)e-); GI 292]. Lat *sē* 'him-/her-/itself' (poss. adj. *suus*), Messapic *veinam* 'self', OHG *sih* 'him-/her-/itself' (poss. adj. *sīn*), Goth *sik* 'him-/her-/itself' (poss. adj. *sīns*), *swi-kunþs* 'obvious' ('self-known'), OPrus *sien* '-self' (poss. adj. *swais*), Lith *savę̃* '-self' (poss. adj. *sãvas*), Latv *sevi* '-self', OCS *sę* '-self' (gen. *sebe*), Alb *u* 'him-/her-/itself', Grk *ἕ* ~ *ἑέ* (< *su̯e ~ *seu̯é) 'him-/her-/itself' (poss. adj. *ὅς* [< *su̯ós] 'his'), Av *hva-* ~ *hava-* 'one's own', OPers *huwa-* 'one's own', OInd *svá-* 'one's own', TochA *ṣñi* 'one's own', TochB *ṣañ* 'one's own'. Widespread and old in IE. Derivatives include *su̯e-t- 'self; one's own' in Lith *svẽčias* 'guest', Latv *svešs* 'stranger; guest', OCS *svatŭ* 'relative, attendant', Alb *vetë* 'self', Grk *(ϝ)έτης* 'relative, friend'; *su̯edh- 'be accustomed to' (< *'make one's own') in Lat *sodālis* 'member of an association', *suēscō* 'become accustomed; accustom', ON *siðarr* 'custom, practice, rite', OE *sidu* 'custom, practice, rite', OHG *situ* 'custom, practice', Goth *sidus* 'custom, practice', Grk *ἔθος* 'custom, habit', *ἦθος* 'accustomed place; custom, usage; disposition, character', OInd *svadhā́* 'inherent power, habitual state, custom', TochA *ṣotre* 'mark, sign', TochB *ṣotri* 'mark, sign' (< *su̯ēdh-ru- 'characteristic').

Interrogative, Relative, and Indefinite Pronouns

We can reconstruct for PIE a wealth of interrogatives, relatives, and indefinites (i.e., pronouns like 'someone' or 'anyone'), though the details of that reconstruction are not always clear. Half of the well-attested IE groups (i.e., Celtic, Balto-Slavic, Greek, Indo-Iranian) have a distinct relative pronoun, *i̯o-, that is different from the interrogative and indefinite pronouns which show a shape *k^{w}o-, *k^{w}i-, or *k^{w}u-. The other half (i.e., Italic, Germanic, Albanian, Armenian, Anatolian, Tocharian) have no relative pronoun *i̯o-, using *k^{w}o-/*k^{w}i-/*k^{w}u- in relative functions as well as for interrogatives and indefinites.

The *k^w-pronouns, whatever their range of meaning, have a bewildering variety of form. Both *k^{w}o- and *k^{w}i- appear

to have existed side by side as interrogatives and indefinites (and also relatives in our second group of languages) in their nominative and accusative forms, though they shared a genitive *k^{w}és(i̯)o whose form proclaims it a part of the *k^{w}o-paradigm. Only *k^{w}i- could appear as an enclitic (i.e., following and forming a single phonological word with whatever it is attached to) indefinite, *except* in Anatolian where both *k^{w}o- and *k^{w}i- can be found as enclitic indefinites. In IE itself *k^{w}u- seems to have been restricted to adverbial functions (e.g., 'where') but in Slavic, Albanian, and Tocharian its role has been expanded.

Whether the relative pronoun takes the shape *k^{w}o- or *i̯o-, the commonest type of relative clause in the earliest attested IE languages, and no doubt in PIE itself, is the correlative relative clause. In such a formation there was a relative clause (marked by the presence of either *k^{w}o- or *i̯o-) followed by a non-relative clause in which the relative pronoun was echoed by a demonstrative pronoun, e.g., in English, '*When* he wants the money, *then* he'll do the job'. The result of this neatly balanced syntactic structure was a substantial number of relative (-interrogative)/demonstrative pairs or triples, e.g., *k^{w}óti, *i̯óti, *tóti.

For the following *k^w-pronouns the glosses should be taken as interrogative in meaning unless specifically stated otherwise (e.g., as 'relative' or 'interrogative and relative'). The *i̯o- forms are exclusively relative in meaning.

***k^{w}ós** 'who', ***k^{w}óm** 'whom' (gen. ***k^{w}és(i̯)o**). [*IEW* 644–645 (*k^{u}o-); Wat 34 (*k^{w}o-); GI 75; BK 324 (*k^w[^{h}]i-/*k^w[^{h}]e-)]. OIr *nech* 'someone, anyone', Wels *neb* 'someone, anyone' (Celtic < *ne-k^{w}os), ON *hvā(r)* 'who', OE *hwā* 'who' (> NE *who*), OHG *(h)wer* 'who' (with the vowel analogical after that of the following word), *hwes* 'whose', Goth *ƕas* (masc.) 'who', (fem.) *ƕō* 'who', *ƕis* 'whose', OPrus *kas* 'who', Lith *kàs* 'who, what' (interrogative and relative), OCS *česo* 'whose', Alb *kë* (< *k^{w}óm) 'whom' (interrogative and relative), Grk τοῦ 'whose', Arm *ov* (< *k^{w}os/k^{w}om) 'who', *ok'* 'anyone', Phryg κος 'whoever', Av (masc.) *kō* 'who', (fem.) *kā* 'who', *kahya* 'whose', *čahya* 'anyone's, someone's', OInd *kás* (masc.) 'who', (fem.) *kā́* 'who', *kásya* 'whose'. The apparent feminine *k^{w}eh$_a$ is probably an innovation in those stocks where it appears (Gothic, Baltic, Indo-Iranian). Celtic and Italic show new formations: *k^{w}e-i ~ *k^{w}o-i 'who' (masc.), *k^{w}eh$_a$-i 'who' (fem.) in OIr *cía* 'who', OWels *pui* 'who' (Celtic < *k^{w}ei), Lat *quī/quae* and Osc *puí/paí* (both interrogative and relative). Widespread and old in IE.

***k^{w}ód** 'what'. [*IEW* 644–645 (*k^{u}o-); Wat 34 (*k^{w}o-); GI 75; BK 324 (*k^w[^{h}]i-/*k^w[^{h}]e-)]. OWels *pa* 'what', Lat *quod* 'in respect to which; that, in that' (conj.), Osc *púd* 'that, in that' (conj.), ON *hvat* 'what', OE *hwæt* 'what' (> NE *what*), OHG *(h)waz* 'what', Goth *ƕa* 'what', Palaic *-kuwat* (generalizing particle), Lydian *-kod* (generalizing particle), Av *ka* 'what', OInd *kád* 'what'. Widespread and old in IE.

***k^{w}ís** 'who'. [*IEW* 644–645 (*k^{u}o-); Wat 34 (*k^{w}i-); GI 139 (*k^{ho}i-); BK 324 (*k^w[^{h}]i-/*k^w[^{h}]e-)]. Lat *quis* 'who, which one', Grk τίς 'who', Hit *kuis* 'who' (interrogative and relative), Av *čiš* 'who'. Old in IE.

***k^{w}íd** 'what, what one'. [*IEW* 644–645 (*k^{u}o-); Wat 34 (*k^{w}i-); GI 75; BK 324 (*k^w[^{h}]i-/*k^w[^{h}]e-)]. Lat *quid* 'what, what one', Osc *pid* ~ *píd* 'what, what one', OCS *čĭto* 'what', Arm *in-č'* 'some', Hit *kuit* 'what' (interrogative), 'which' (relative), Av *čit* (generalizing particle), OPers *čiy* (generalizing particle), *čid* (generalizing particle). Widespread and old in IE.

***k^{w}óteros** 'which (of two)'. [*IEW* 645 (*k^{u}o-tero-); Wat 34 (*k^{w}o-); GI 75; BK 324 (*k^w[^{h}]i-/*k^w[^{h}]e-)]. Lat *uter* 'which', ON *hvārr* 'which', OE *hwæðer* 'which' (> NE *whether*), Goth *ƕaþar* 'which', Lith *katràs* ~ *katràs* 'which', Latv *katrs* 'which', OCS *koteryjĭ* 'which', Grk πότερος 'which', Av *katāra-* 'which', OInd *katará-* 'which'. Widespread and old in IE. Compare relative *i̯óteros 'which of the two'.

***k^{w}óm** 'when'. [*IEW* 645 (*k^{u}om); BK 324 (*k^w[^{h}]i-/*k^w[^{h}]e-)]. OLat *quom* 'when' (relative), Lat *cum* 'when' (relative), Goth *ƕan* 'when', OPrus *kan* 'when', Lith (dial.) *ką* 'when', OCS *ko-gda* 'when', Alb *kë* 'when', Av *kəm* 'how'. The masculine accusative form of *k^{w}ós already indicated 'when' in late PIE.

***k^{w}odéh$_a$** 'when'. [*IEW* 646 (*k^{u}o-); BK 324 (*k^w[^{h}]i-/*k^w[^{h}]e-)]. Lith *kadà* 'when', Av *kaδa* 'when', OInd *kadā́* 'when'. A word of the center and east of the IE world.

***k^{w}ór** 'where'. [*IEW* 646 (*k^{u}o-); Wat 34 (*k^{w}o-); BK 324 (*k^w[^{h}]i-/*k^w[^{h}]e-)]. ON *hvar* 'where', *hverr* 'who', Goth *ƕar* 'where', *ƕarjis* 'who', OInd *kárhi* 'when, at what time'. With lengthened grades: OLat *quōr* 'why, wherefore', OE *hwǣr* 'where' (> NE *where*). Widespread and old in IE. Compare *tór 'there'.

***k^{w}u ~ *k^{w}ú** 'where'. [*IEW* 647–648 (*k^{u}u-); GI 138]. OIr *co* 'how; where', MWels *cw* 'where', Lat *ubi* 'where' (by misdivision of such old compounds as *nēcubi* 'so that nowhere' as *nēc-ubi* rather than the more original *nē-cubi*), OPrus *quei* 'where', OCS *kŭde* 'where', *kŭto* (< *k^{w}u + so 'that one' [with *s- secondarily replaced by *t-]) 'who', Alb *kush* (< *k^{w}u + so) 'who' (interrogative and relative), Grk πυ- 'where', Hit *kuwapi* 'where' (if not < *k^{w}obhi), Av *kū* 'where', OInd *kū́* 'where', TochA *kus* 'where' (interrogative and relative), TochB *k$_u$se* 'who' (interrogative and relative) (Toch < *k^{w}u + so 'that one'). From *k^{w}ūr we have Lith *kur̃* 'where', *kuris* (< *kur* + *jis* 'that one') 'who' (interrogative and relative), Alb *kur* 'where', Arm *ur* 'where'. In one form or another widespread and old in IE. This set of data and the previous one show a relative pronoun originally meaning 'where' that often enough becomes a generic relative pronoun that, in turn, is reinforced by some other pronoun.

***k^{w}óti ~ *k^{w}éti** 'how much, how many'. [*IEW* 646 (*k^{u}o-ti); Wat 34 (*k^{w}o-); BK 324 (*k^w[^{h}]i-/*k^w[^{h}]e-)]. From k^{w}óti: Lat *quot* 'how many', Grk πόσος 'how much, how many', ποσός 'of some quantity', OInd *káti* 'how much, how many'; from *k^{w}éti: Bret *pet der* 'how many days', Av *čaiti* 'how many'. Widespread and old in IE. Compare relative *i̯óti 'as much, as many' and the demonstrative *tóti 'so much, so many'.

***kʷeh$_a$li** 'of what sort, of what size'. [*IEW* 646 (*kᵘā-li-); Wat 34 (*kʷo-); BK 324 (*kʷ[ʰ]i-/*kʷ[ʰ]e-)]. Lat *quālis* 'of what sort, of what kind', Lith *kõlei* 'how long', Grk *πηλίκος* 'how old, how large'. Related, as if from **kʷoli*, are OCS *kolikŭ* 'how large', *kolĭ* 'how much'. Compare **téh$_a$li* 'of that sort, of that size'.

?*kʷeh$_a$k- 'of what sort'. OIr *cāch* 'everyone', Lith *kók(i)s* 'of what sort; any, some; whatever (relative)', OCS *kakŭ* 'of what sort' (cf. *kako* 'how?', *tajo* 'thus', *jako(že)* 'in which manner'). Possibly a word of the northwest of the IE world.

***kʷoih$_x$os** 'pertaining to whom/what'. [BK 324 (*kʷ[ʰ]i-/*kʷ[ʰ]e-)]. Lat *cūius* 'whose', Grk *ποῖος* 'of what kind', *ποιός* 'of some kind', TochA *ke* 'whose'. Not widespread but the geographical distribution suggests considerable antiquity in IE.

?*kʷeh$_a$m 'how; as'. [*IEW* 644–645 (*kᵘo-); Wat 34 (*kʷo-); BK 324 (*kʷ[ʰ]i-/*kʷ[ʰ]e-)]. Lat *quam* 'how, in what way; as' (cf. *tam* 'so' and the derivatives *quandō* 'when, at what time; at any time; at the time when', *quantus* 'of what size, how great; as great as ' [cf. *tantus* 'so great']), Arm *k'an* 'as', *k'cani* 'how many?'. The apparent agreement of Latin and Armenian would appear to make this at least a late PIE derivative. In form this would appear to be a feminine accusative singular of **kʷos* but a separate feminine form of the interrogative pronoun does not appear to be of PIE date so it is more probable that we have in **kʷeh$_a$m* some sort of adverbial derivative.

***i̯ós/*i̯éh$_a$/*i̯ód** 'who, what, that' (relative pronoun). [*IEW* 283 (*i̯o-); Gl 188, 339 (*yo-); BK 467 (*ay-, *ya-)]. Gaul *dugiionti-io* 'who serve' (also in other Celtic languages, though phonological change has greatly obscured the form), in Baltic it forms the suffix on the definite form of adjectives, e.g., Lith *geràs-is* 'good', OCS *i-že/ja-že* 'he/she who', also forming the suffix on the definite form of adjectives, e.g., *dobrŭ-jĭ* 'kind, good', Rus *dóbryj* 'kind, good', Grk *ὅς/ἥ/ὅ* 'who, what, that', Phryg *ιος (νι)* 'whoever', Av *yō/yā/hyat* 'who, what, that', OInd *yás/yā/yád* 'who, what, that'. Were it not for its presence in Celtic, one might think that this pronoun was an innovation of the center and east of the IE world. However, the fact that it is present in Celtic makes it almost certain that **i̯ós* was originally pan-Indo-European.

***i̯oteros** 'which of the two'. [*IEW* 283 (*i̯o-); BK 467 (*ay-, *ya-)]. Grk (Doric) *ὅτερος* 'which of the two', Av *yatāra-* 'which of the two', OInd *yatará-* 'which of the two'. A word of the center and east of the IE world. Compare **kʷoteros* 'which of two?'.

***i̯óti** 'as much, as many'. [BK 467 (*ay-, *ya-)]. Grk *ὅσος* (< **i̯oti-os*) 'as many', OInd *yáti* 'as many as, as often as'. Correlative of **tóti* 'so much, so many'. Compare also **kʷóti* 'how much, how many?'. A word of the center and east of the IE world.

***i̯éh$_a$u̯ot(s)** 'as many, as long'. [*IEW* 283 (*i̯o-); BK 467 (*ay-, *ya-)]. Grk *ἕως* (Doric *ἇος*) 'as long as', OInd *yāvat* 'as much, as many; as great, as large; as often, as far, etc.'. Correlative of **teh$_a$u̯ot(s)* 'so many, so long'. A word of the center and east of the IE world.

***me/o-** (interrogative/relative pronoun). [BK 524 (*mi-/*me-)]. Bret *ma* ~ *may* 'that' (conj.), Hit *masi* 'how much, how many', TochA *mant* 'how', *mäkte* 'how', *mäksu* 'who' (interrogative/relative). The agreement of Celtic, Anatolian and Tocharian would seem to make this word a very likely candidate for PIE status.

Demonstrative Pronouns

***so** (masc.), ***seh$_a$** (fem.), ***tód** (neuter) 'that (one)'. [*IEW* 978 (*so(s)), 1086 (*to-); Wat 62 (*so-), 71 (*to-); Gl 336–338 (*so/*sā/*tʰo); BK 194 (*sa-/*sə-), 103 (t[ʰ]a-/*t[ʰ]ə-)]. OIr *-so/-d* 'this one', OLat *sum/sam* 'this one' (acc.), Lat *is-te/is-ta/is-tud* 'this (one)', ON *sá/sú/þat* 'the; that', OE *sē/sēo/þæt* (> NE *that*) 'the', OHG *der/die/daz* 'the', Goth *sa/sō/þata* 'that (one)', OPrus *stas/sta* 'that (one)' (with conflation of initial **s-* and *t-*), Lith *tàs/tà* 'that (one)', Latv *tas/tā* 'that (one)', OCS *kŭto* 'who', *tŭ/ta/to* 'that (one)' (in East Baltic and Slavic *t-* replaces earlier *s-*), Alb *ai/ajo* 'he/she' (< **a* + **so/*seh$_a$* with loss of initial **s-* and then the addition of a hiatus-filling *-j-*), *ato/ata* 'they', Grk *ὁ/ἡ/τό* 'the', Arm *ay-d* 'that', Hit *ta* 'and, then', Av *hvō* (= /hau/ < **so* + *u*)/*hā/tat* 'that (one)', OInd *sá/sā/tát* 'that (one)', TochB *se/sā/te* 'such (a one)'. Widespread and old in IE.

***tór** 'there'. [*IEW* 1087 (*tor); Wat 71 (*to-); BK 103 (t[ʰ]a-/*t[ʰ]ə-)]. ON *þar* 'there', OE *þǣr* 'there' (> NE *there*), Goth *þar* 'there', OInd *tár-hi* 'at the time, then'. Attested only on the peripheries of the IE world, it must reflect something old in PIE. Compare **kʷór* 'where'.

***todéh$_a$** 'then'. [*IEW* 1087 (*to-); BK 103 (t[ʰ]a-/*t[ʰ]ə-)]. Lith *tadà* 'then', Av *taδa* 'then', OInd *tadā́* 'then'. Compare **kʷodéh$_a$* 'when?' and like it, a word of the center and east of the IE world.

***tóti** 'so much, many'. [*IEW* 1087 (*toti); BK 103 (t[ʰ]a-/*t[ʰ]ə-)]. Lat *tot* 'so many', *totidem* 'just as many', Grk *τόσος* (< **toti-os*) 'so many'. Correlative of **i̯óti* 'as many'. Compare **kʷóti* 'how much, how many?'.

***teh$_a$li** 'of that sort, of that size'. [*IEW* 1087 (*to-ali-); Wat 71 (*to-); BK 103 (t[ʰ]a-/*t[ʰ]ə-)]. Lat *tālis* 'of that sort', Lith *tõlei* 'so long', Grk *τηλίκος* 'so old'. Cf. OCS *tolĭ* ~ *toliko* 'so many'. Compare **kʷéh$_a$li* 'of what sort, of what size?'.

***téh$_a$u̯ot(s)** 'so many, so long, etc.'. [*IEW* 1087 (*to-); BK 103 (t[ʰ]a-/*t[ʰ]ə-)]. Grk *τέως* (Doric *τᾶ(ϝ)ος*) 'so long, meanwhile', Av *aē-tāvant* 'so many', OInd *(e-)tā́vat* 'so much, so many; so great, so far; etc.', TochB *tot* (< **teh$_a$u̯ot*) 'so much, so many; so great; so far, etc.' (cf. TochAB *kos* 'as much, etc.' < **kʷeh$_a$u̯ots*). The Indo-Iranian forms have been rebuilt as *-nt-* stems after **-n̥-* and **-o-* fell together. Correlative of **i̯eh$_a$u̯ot(s)* 'as much, as long, etc.'. At least a word of the PIE southeast.

***téh$_a$mot(s)** 'then, at that place'. [*IEW* 1087 (*to-); BK 103 (t[ʰ]a-/*t[ʰ]ə-)]. Latv *nuo tām* 'from there', OCS *tamo* 'thither, there' (cf. *kamo* 'whither?'), Grk *τῆμος* (Doric *τᾶμος*) 'then, thereupon' (cf. *ἦμος* [Doric *ἇμος*] 'at which time, when'). A word of the center of the IE world.

***k̂ís** 'this (one)'. [*IEW* 609–610 (**k̂i-*); Wat 32 (**ki-s*); BK 241 (**k[h]a-/*k[h]ə-*)]. OghamIr *coi* 'here, on this side', OIr *cē* 'here, on this side', Gaul *κοvι* 'here, on this side', Lat *cis* 'on this side of', OE *hē* 'he' (> NE *he*), OHG *her* ~ *hē* 'he' (Gmc < **k̂is*), OPrus *schis* ~ *sis* 'this (one)', Lith *šis* 'this (one)', Latv *šis* 'this (one)', OCS *sĭ* 'this (one)', Alb *sot* (< **k̂ieh$_a$-dih$_x$tei*) 'today', *sivjet* (< **k̂iei-u̯etes*), *simjet* (< older and dialectal *simvjet* < **k̂iim-u̯etesm̥*), Myc *za-we-te* 'this year', Grk *σῆτες* (< **k̂ieh$_a$-u̯etes*) 'in this year', Hit *ki* 'this', *kinun* 'now' (if < **k̂i-nú-n* rather than **k̂e-nú-n*). Perhaps originally from **k̂e* 'here' + **i*. In any case, widespread and old in IE.

***$h_1$éi** (emphatic ***$h_1$eióm**) 'he, this (one)', ***$h_1$ih$_a$-** 'she, this (one)', ***$h_1$id** (emphatic ***$h_1$idóm** ~ ***$h_1$idéh$_a$**) 'it' (masc./neut. gen. ***$h_1$esiós**, fem. gen. ***$h_1$esiéh$_a$s**). [*IEW* 281–283 (**ei-*); Wat 26 (**i-*); GI 253 (**is/*it*); BK 444 (**i/*e*)]. OLat *eis* 'he', Lat *is* ~ *īs/eā/id* 'he/she/it', OE *it* 'it' (> NE *it*), OHG *ir* ~ *er/iz* ~ *ez* 'he/it' (fem. gen. *ira* ~ *era*), Goth *is/ita* 'he/it' (masc. gen. *is*, fem. gen. *izōs*), Lith *jìs/jì* 'he/she', Grk (Cypriot) *ἴν* 'him, her', HierLuv *is* 'this', Av *ayəm* ~ *aēm/īm* 'he/she; this', OPers *iyam* 'she', OInd *ayám/iyám/idám* 'he/she/it; this' (masc./neut. gen. *asyá*, fem. gen. *asyā́s*). Widespread and old in IE. Originally the paradigm was based on **$h_1$ei-* in the nominative and accusative and **h_1e-* elsewhere. The **$h_1$ei-* is presumably **h_1e* + **i*.

***$h_1$iteros** '(an)other'. Lat *iterum* 'again', OInd *ítara-* 'the other, another'. The geographical distribution suggests some antiquity in IE.

***$h_1$ith$_a$** (emphatic ***$h_1$ith$_a$ém** ~ ***$h_1$ith$_a$éh$_a$**) 'thus'. MWels *yt-* (verbal particle), Lat *item* 'also, likewise', *ita* 'so, thus, in this manner', Lith (dial.) *it* 'as', Av *iδā* 'so', OInd *íti* 'thus, in this manner', *itthám* 'thus', *itthā́* 'thus; truly'.

***$h_1$idha** 'here'. [*IEW* 284–285 (**i-dha*)]. OIr *-id-* (infixed particle), MWels *yd-* (verbal particle), Lat *ibī* 'there', Grk *ἰθαγενής* 'here born', Av *iδa* 'here', OInd *ihá* 'here'. Widespread and old in IE.

***h$_a$en-** 'that'. [*IEW* 37 (**an*); BK 372 (**an-/*ən-*)]. OIr *and* 'here', Lat *an* 'or; whether', OPrus *anga-anga* 'whether', Lith *añs* ~ *anàs* 'yon', *an-gu* 'or', OCS *onŭ* 'he; yon', Alb *a* 'whether', Grk *ἄν* 'possibly'. A word of the west and center of the IE world.

See also Own. [D.Q.A.]

Further Readings

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Schmidt, G. (1978) *Stammbildung und Flexion der indogermanischen Personalpronomina*. Wiesbaden, Harrassowitz.

Watkins, C. (1976) Towards Proto-Indo-European syntax: problems and pseudo-problems, in *Papers from the Parasession on Diachronic Syntax*, eds. S. B. Steever, C. A. Walker and S. S. Mufwene, Chicago, Chicago Linguistic Society, 305–326.

PROSPER

***speh$_1$(i)-** 'be sated, prosper'. [*IEW* 983 (**sp(h)ē(i)-*); Wat 63 (**spē-*)]. Lat *spēs* 'hope', OE *spōwan* 'thrive', OHG *spuon* 'thrive, prosper', Lith *spė́ti* 'predict, foretell; be on time', Latv *spēt* 'be able', OCS *spěti* 'thrive, prosper', Hit *ispā(i)-* 'get filled, be sated', OInd *sphā́yate* 'grows fat, increases'. Cf. the derived adjective: **sph̥$_1$rós* '± fat, rich': Lat *prosper* 'lucky', ON *sparr* 'sparing', OCS *sporŭ* 'rich', OInd *sphirá-* 'fat' (*-ph-* rather than the expected **-p-* must be because of the affective meaning of the word). Distribution suggests PIE status.

See also Satisfy. [E.C.P.]

PROTECT

***h$_a$lek-** 'defend, protect' (pres. ***h$_a$lékse/o-**). [*IEW* 32 (**aleq-*); Wat 2 (**alek-*)]. OE *ealgian* 'protect', Grk *ἀλέξω* 'defend', Arm *aracel* 'tend', OInd *rákṣati* 'protect'. Distribution insures PIE status. From the same root we have the Germanic words for temple: OE *ealh* 'temple', Goth *alhs* 'temple' (< *'protected place'). The Germanic tribes venerated their gods in the open, in sacred groves (Tacitus, *Germania* 9) which required that sacrifices and other homages be set in the midst of nature which required fencing in the demarcated sacred area or protecting it through specific rites against hostile forces. This root was also employed in a similar way in Baltic where we find Lith *al̃kas* 'holy grove' or 'place on a hill where sacrifices are made' and Latv *èlka kalns* 'temple hill'. Here too belongs Grk *ἄλμα* 'sacred grove'.

***ser-** 'protect'. [*IEW* 910 (**ser-*); Wat 58 (**ser-*)]. Lat *servō* 'guard', Lydian *katare-* (= *kat-sare-*) (< **-sorei̯e/o-*) 'stand watch', *sarēta-* 'protector', Av *haraiti* 'defends'. The geographical distribution of the reflexes of this word would seem to guarantee its PIE status.

See also Cover. [E.C.P.]

PROTO-INDO-EUROPEAN

In 1786 Sir William Jones, in a justly famous lecture delivered in Calcutta, made the observation that:

> *The Sanskrit language, whatever be its antiquity, is of a wonderful structure; more perfect than the Greek, more copious than the Latin, and more exquisitely refined than either, yet bearing to both of them a stronger affinity, both in the roots of the verbs and in the forms of grammar, than could possibly have been produced by accident; so strong indeed, that no philologer could examine them all three, without believing them to have sprung from some common source, which, perhaps, no longer exists: there is a similar reason, though not quite so forcible, for supposing that both the Gothic and the Celtic, though blended with a very different*

idiom, had the same origin with Sanskrit; and the old Persian might be added to the same family, if this were the place for discussing any question concerning the antiquities of Persia.

Sir William's is the first published recognition of the linguistic entity we now call "Proto-Indo-European" (or in German *Urindogermanisch*). Since then investigators have sought, on the basis of the data provided by its several descendants, to reconstruct that "common source". Two hundred and some years after Sir William we know a great deal about Proto-Indo-European though, in the absence of actual PIE records or, even better, access to a native speaker or two, our knowledge will always be partial rather than complete. Our partial knowledge is of course subject to revision, both as new data become available (the discovery of Hittite and Tocharian at the beginning of this century has caused numerous revisions to our assumptions concerning Proto-Indo-European) and as our knowledge about language in general grows more sophisticated (advancing knowledge of linguistic typology particularly has suggested new ways of interpreting the possibilities of Proto-Indo-European).

In the description that follows there is an attempt to outline what we know about Proto-Indo-European. Given the limitations on our knowledge, any such description is bound to be idiosyncratic to a degree and the reader is thus warned that not everything here is "received knowledge". Indeed, probably everything said here would occasion at least some disagreement from someone though it is perhaps the case, at the same time, that everyone would see at least a family resemblance between this description and his or her own views about Proto-Indo-European.

Phonological Structure of Proto-Indo-European

On the basis of the evidence of the twelve well-attested stocks of the Indo-European language family, Proto-Indo-European is traditionally reconstructed as containing fifteen oral stops, two nasals, one continuant, three or four "laryngeals" (opinion is divided as to whether this class of sound was comprised exclusively of continuants or contained both continuants and stops), four semi-vowels (or approximants), and five pairs of long and short vowels.

In their traditional symbols (and as adopted in this work) are the following stops:

	Labial	Dental	Palatal	Velar	Labio-Velar
Voiceless	*p*	*t*	*k̂*	*k*	k^w
Voiced	*b*	*d*	*ĝ*	*g*	g^w
Aspirated	*bh*	*dh*	*ĝh*	*gh*	g^wh

When the voicing of the stop cannot be determined, sometimes a capital [P], [T], etc., is used. The dentals had affricate allophones (symbolized as [t^s], [d^s], and [dh^s]) before another dental.

Nasals: *m* *n*

Continuant: *s*

The continuant /s/ had a voiced allophone [z] before a voiced stop, e.g., **sd* > **zd*. Normally this voiced allophone is not noted in the *Encyclopedia*.

Laryngeals: h_1, h_2, h_3, h_4

Like the nasals and semivowels, the laryngeals had vowel and consonant allophones. The vowel allophones are symbolized by a circle under the [h], i.e., *h̥*. In combination with nasals and semivowels it is normally the laryngeal which is consonantal and the nasal or semivowel which is vocalic.

Semivowels: *r*, *l*, *i̯*, *u̯*

It is usually assumed that the nasals and semivowels all have both vowel allophones (*i*, *u*, *r̥*, *l̥*, *m̥*, *n̥*) and consonant allophones (*i̯*, *u̯*, *r*, *l*, *m*, *n*). However, it is not certain that the vowel and consonant allophones, if that is what they were, were absolutely predictable in late Proto-Indo-European. Particularly [i] and [u] would appear to be independent of [i̯] and [u̯]. Thus both sets, vowels and consonants, are transcribed separately in the *Encyclopedia*.

Vowels: *i*, *ī*   *u*, *ū*
e, *ē*   *o*, *ō*
a, *ā*

Note that *i and u* are given here as vowels (as well as the vocalic allophones of the semivowels) very largely because of the corresponding long vowels. None of the long vowels was common in PIE. Most long vowels in the daughter languages are the result of original vowel plus laryngeal combinations (e.g., **-eh₁-* > **-ē-*) or by compensatory lengthening (e.g., **-ers* > **-err* > **-ēr*).

It must be emphasized that the phonological system given above is the traditional reconstruction. It is, however, not universally accepted. Particularly controversial are (1) the make-up of the stop system and (2) the number and nature of the laryngeals. Almost all are agreed that Proto-Indo-European had three series (or manners of articulation) of stops and a sizeable number are agreed that Proto-Indo-European showed five distinct places of articulation (others argue for only four distinct places of articulation, on which see below). The three series have traditionally been reconstructed as voiceless, voiced, and voiced aspirate. Using the bilabials as examples, we have **p*, **b*, and **bh* respectively. For the first two series these traditional reconstructions simply recapitulate the phonetic facts of eight of the well-attested branches of Indo-European: Celtic, Italic, Baltic, Slavic, Albanian, Greek, Iranian, and Indic. (Germanic and Armenian show voiceless continuants [Germanic] or a mixture of voiceless continuants

The Proto-Indo-European Phonological System and its Outcome in the Major Indo-European Stocks

PIE	Celt	Ital	Gmc	Balt	Slav	Alb	Grk	Arm	Anat	Iran	Ind	Toch
	OIr	Lat	OE	Lith	OCS	Alb	Grk	Arm	Hit	Av	OInd	TochB
*p	ø	p	ff	p	p	p	p	h ~ ø ~ p' ~ y ~ w	p ~ pp	p	p	p
*b	b	b	p	b	b	b	b	p	p	b	b	p
*bh	b	f/b	b	b	b	b	ph	b	p	b	bh	p
*t	t	t	þ	t	t	t	t	t' ~ d ~ y	t ~ tt	t	t	t ~ c
*d	d	d	t	d	d	d	d	t	t	d	d	t ~ ts ~ ø
*dh	d	f/d	d	d	d	d	th	d	t	d	dh	t ~ ts
*k̂	c	c	h	š	s	th	k	s ~ j	k ~ kk	s	ś	k ~ ś
*ĝ	g	g	c	ž	z	dh	g	c ~ t	k	z	j	k ~ ś
*ĝh	g	h	g	ž	z	d	kh	j	k	z	h	k ~ ś
*k	c	c	h	k	k	k ~ q	k	k' ~ g	k ~ kk	k	k	k ~ ś
*g	g	g	c	g	g	g ~ gi	g	k ~ c	k	g	g	k ~ ś
*gh		h	g	g	g	g ~ gi	kh	?	k	g	gh	k ~ ś
*k^w	c	qu	hw	k	k	k ~ s	p ~ t	k' ~ h ~ g	ku ~ kku	k	k	k ~ ś ~ kw
*g^w	b	v/gu	cw	g	g	g ~ z	b ~ d	k	ku	g	g	k ~ ś ~ kw
*g^wh	g	f/u	w	g	g	g ~ z	ph ~ th	ğ ~ ǰ	ku	g	gh	k ~ ś ~ kw
*s	s	s	s	s	s	gj ~ sh	h ~ ø ~ s	h ~ ø	s	h ~ s ~ š	s ~ ṣ	s ~ ṣ
*i̯	ø	i	gi	j	j	gj	h ~ z	z ~ ø	y	y	y	y
*u̯	w	v	w	v	v	v	ø	g	w	v	v	w ~ y
*m	m	m	m	m	m	m	m	m	m	m	m	m
*n	n	n	n	n	n	n	n	n	n	n	n	n ~ ñ
*l	l	l	l	l	l	l	l	l	l	r	l ~ r	l
*r	r	r	r	r	r	r	r	r	r	r	r ~ l	r
*m̥	em	en ~ in	um	im	ę	e	a	am	am	a	a	am/am
*n̥	en	en	un	in	ę	e	a	an	an	a	a	an/an
*l̥	ul	ol	ul	il	ĭl	ul	al	al	al	ərə	r̥	al/al
*r̥	ri ~ ar	or	ur	ir	ĭr	ri ~ re	ar	ar	ar	ərə	r̥	ar/ar
*i	i	i	i	i	ĭ	i ~ e	i	i	i	i	i	(y)a/(y)a ~ a/ä
*ī	ī	ī	ī	y	i	i	ī	i	ī	ī	ī	(y)i
*e	e	e	e	e	e	ja ~ je	e	e ~ (~ a)	e (~ a ~ i)	a	a	(y)a/(y)a
*ē	ī	ē	æ	ė	ě	o	ē	i	ē	ā	ā	(y)e
*o	o	o	æ	a	o	a	o	o ~ u (~ a)	a ~ ā	a	a	e
*ō	ā	ō	ō	uo	a	e	ō	u	ā	ā	ā	ā
*a	a	a	æ	a	o	a	a	a	a	a	a	ā
*ā	ā	ā	ō	o	a	o	ā	a	ā	ā	ā	a
*u	u	u	u	u	ŭ	u	u	u	u	u	u	a/a
*ū	ū	ū	ū	ū	y	y (~ i)	ū	u	ū	ū	ū	o
*h_1	ø	ø	ø	ø	ø	ø	ø	ø	ø	ø	ø	ø
*h_2	ø	ø	ø	ø	ø	ø	ø	ø ~ h	h ~ hh	ø	ø	ø
*h_3	ø	ø	ø	ø	ø	ø	ø	ø ~ h	h	ø	ø	ø
*h_4	ø	ø	ø	ø	ø	h	ø	ø	ø	ø	ø	ø

and voiceless aspirated stops [Armenian] where the other languages show voiceless stops, and they exhibit voiceless stops where the other languages show simple voiced stops. Tocharian and Anatolian show voiceless stops for all three series and are not much help in reconstruction, though Anatolian preserves the original voiceless stops as fortis or geminated stops [when between vowels] and distinct from the lenis or simple voiceless stops that reflect the other two PIE series.)

The reconstruction of the third series as voiced aspirates rests essentially on the evidence of Indic, the only stock to have voiced aspirates. However, the reliance on Indic in this case is a little less one-sided than it might appear since the third series has fallen together with the second in seven of the well-attested branches (Celtic, Baltic, Slavic, Albanian, Anatolian, Iranian, and Tocharian) so our evidence for the phonetic nature of this series is necessarily more limited. In Germanic and Armenian this series appears as simple voiced

Summary of Development of Various Types of PIE Velars (First symbol of a pair is the traditional reconstruction)

PIE	$\acute{k}$/k	k/q	k^w
Centum	k	k	k^w
Satəm	tć	k	k
Albanian (before front vowels)	th	k	s
Luvian	z (= /ts/)	k	kw

Note that Albanian /k/ of whatever origin normally becomes /$\acute{k}$/ (spelled <q>) before remaining front vowels.

stops (Armenian) or voiced continuants (Germanic, at least originally). In Greek this third series is reflected by voiceless aspirates and in Italic by voiceless continuants. The fact that its fate in the majority of Indo-European stocks is to fall together with the second series does, in any case, suggest that the two series shared some major phonological feature.

In the last twenty years or so many Indo-Europeanists have come to doubt the accuracy of these reconstructions because they lead to an overall phonological system, one having voiced aspirates but no corresponding voiceless aspirates, that is otherwise very rare or even non-existent in the attested languages of the world. They are not unnaturally suspicious of reconstructing a language that is systematically unmatched by any other. Several different proposals have been put forward as possible replacements for the traditional scheme. The alternative that appears often in the *Encyclopedia* is that of Thomas Gamkrelidze and Vyacheslav Ivanov (= GI) who reconstruct voiceless aspirated stops, voiceless ejective stops, and voiced aspirated stops (e.g., $*p^h$, **p'*, and $*b^h$) for the three series. Robert Beekes and others have proposed a system of **p*, **p'*, and $*p^h$ where the first is fortis (and voiceless) and the second and third lenis (and voiced). The editors of the *Encyclopedia* take an agnostic stand on the exact nature of the three series but use the traditional symbols for them, as do, as a matter of convenience, the majority of investigators, whatever their personal beliefs about the phonetics underlying the symbols.

While differing beliefs as to the nature of the three series of stops are mechanically translatable from one to another, the difference in opinion as to how many sets of dorsal consonants to reconstruct is another matter. The older tradition is to reconstruct three sets: a dorso-palatal set (which we can represent by its voiceless member $*\acute{k}$), a dorso-velar set (**k*), and a (dorso-)labio-velar set ($*k^w$). Most IE stocks have reduced this three-way division into a two-way one. The so-called centum languages (named after the Latin word for 'hundred' and comprising Celtic, Italic, Germanic, Greek, Tocharian) merge the dorso-palatals and dorso-velars but retain the labio-velars as a distinct set, thus $*\acute{k}$, $*k$, $*k^w > *k$, $*k$, $*k^w$. The so-called satəm languages (named after the Avestan word for 'hundred' and comprising Baltic, Slavic, Armenian, Iranian, Indic) lose the labial element of the labio-velars and thus merge them with the dorso-velars while the dorso-palatals remain distinct (and appear further palatalized as affricates or sibilants of one sort or another, e.g., *ts*, *s*), thus $*\acute{k}$, $*k$, $*k^w > *t\acute{c}$, $*k$, $*k$. Since none of these stocks has more than two sets of dorsals, many investigators have sought to reduce the PIE dorsals to two sets as well, reconstructing $*\acute{k}$ and $*k^w$ and taking the relatively rare equation of satəm *k* and centum *k* as allophonic variation (many satəm languages do seem to depalatalize $*\acute{k}$ before resonants), cases of inter-stock borrowing, or wrong etymologies.

However, it has long been claimed that Albanian preserves a three-way distinction, at least before front vowels, where $*\acute{k}$, $*k$, and $*k^w$ appear as *th*, *q* (= [$\acute{k}$]), and *s* respectively (before back vowels PIE **k* and $*k^w$ both appear as Alb *k*). More recently evidence has been presented that Luvian, and closely related Anatolian languages, also attest to a three-way distinction in all environments of *z* = (/ts/), *k*, and *kw* respectively. Thus it is the general editorial practice of the *Encyclopedia* to recognize three sets of dorsals, though not all of the individual contributors have done so. In any case, it is sometimes difficult to know what should be reconstructed. If a word is attested only in satəm languages with a *k*, should we reconstruct a **k* or a $*k^w$? If the word is attested only in centum languages with a *k*, should we reconstruct $*\acute{k}$ or **k*? At times the first ambiguity has been symbolized as $*k^{(w)}$ but not consistently and the second kind of ambiguity has been left largely unacknowledged in any form.

With regard to the reconstruction of the three dorsals we might further note that, while the palatalization of dorso-velars is common (even when not preceding front vowels), the depalatalization of palatals is rare. Thus the usual assumption that in the centum languages the PIE palatals became dorso-velars is not typologically very realistic. It is particularly unrealistic if, as is usually supposed, the centum languages do not comprise a natural grouping on their own but are simply those IE groups that did not undergo "satəmization". We would have to suppose then that all the centum languages independently underwent the rare change of $*\acute{k}$ to **k*. It may make sense then to think of reconstructing (dorso-velar) **k*, (dorso-uvular) **q*, $*k^w$ rather than $*\acute{k}$, $*k$, $*k^w$. The satəm languages (Indo-Iranian, Balto-Slavic, Armenian) would then show $*k$, $*q$, $*k^w > *t\acute{c}$, $*q$, $*k^w$, where the delabialization of $*k^w$ triggered the affricatization of **k*, so as to prevent merger of the two series (under this scenario the two changes that characterize satəm languages would be connected rather than independent as is the case under the traditional scenario). In

all PIE groups the relatively infrequent *q*-series eventually became dorso-velar, falling together with original **k* in the centum languages and with **k* (from **k*^{w}) in the satəm languages. In Albanian **q* became **k* only after **k* (from **k*^{w}) had also been affricated when before front vowels while in the Luvian group we find affricatization of original **k* (to *ts*), dorso-velarization of original **q* but the retention of original **k*^{w}.

Knottier than the dorsals is the problem of symbolizing the PIE "laryngeals". All investigators are agreed that Proto-Indo-European had at least one such sound, though its exact phonetic specification is difficult. Most think that there were three or four and a few investigators posit even more. Those who think there are at least three are in agreement that some, at least, of these laryngeals "colored" an adjacent vowel, that is, changed an underlying **e* to **a* or **o*. The editorial practice of the *Encyclopedia* is to assume four laryngeals and symbolize them as h_1, h_2, h_3, and h_4. The second and fourth color an adjacent **e* to **a*, while the third colors an adjacent **e* to **o*. The first laryngeal causes no coloring. Because it has no effect on the place of an adjacent vowel, it has been most often assumed that the first laryngeal was a glottal stop. The second laryngeal appears, under most circumstances, as *h* in Hittite and the third laryngeal also appears as *h* when word-initial. The fourth laryngeal appears as *h* in Albanian when word-initial before an originally stressed vowel. In all other cases the laryngeals have disappeared in the daughter languages, though leaving more or less substantial traces in vowel coloring, in the lengthening of preceding vowels and in Balto-Slavic tone and Indo-Iranian syllable division. It is tempting, given the three series of PIE dorsal stops, to equate laryngeals two through four with those three series. Thus $*h_3$, because of its power to round an adjacent **e* would be $*x^w$, while $*h_2$ would be (dorso-uvular) $*\chi$ and $*h_4$ would be **x*. Most investigators, however, take "laryngeals" two, three, and four to have been pharyngeal and/or laryngeal continuants.

At times, in the absence of a Hittite or Albanian cognate, we cannot tell whether a laryngeal was $*h_2$ or $*h_4$. In such cases the symbol $*h_a$ is used. In other cases the nature of the laryngeal is completely unknown and the generic $*h_x$ is used. Some contributors prefer a three-laryngeal solution that recognizes only the first three laryngeals. The editors have made substantial efforts to make the usage of these symbols uniform throughout the *Encyclopedia* (it is relatively easier for the reader to translate a four laryngeal description into a three laryngeal one than vice versa though, for one reason and another, the translation is not always one to one). However, consistency in this area is fraught with difficulties and it is highly doubtful that we have avoided all of them.

The preceding table summarizes the major reflexes of the PIE consonants and vowels in the twelve well-known daughter stocks (where it is difficult to say what the "major reflex" is in a given instance, the common reflexes, each dependent on some specific environment, are all presented).

Accent

Proto-Indo-European also had a phonemically distinct accent that might fall on any syllable (cf. Greek *τόμος* 'slice', *τομός* 'cutting, sharp'). In late Proto-Indo-European, that is Proto-Indo-European immediately before its break-up, this accent appears to have been one of pitch (as in, say, contemporary Lithuanian) rather than stress (as in contemporary English). An accented syllable would have been pronounced with a higher pitch (or with a rising pitch) and unaccented syllables with a lower pitch (or with a falling pitch). Since PIE accented syllables most often contained full vowels and unaccented syllables did not (e.g., $*h_1$*és-mi* 'I am' compared with $*h_1$*s-més* 'we are'), it seems likely that at some previous time, not too deep in the history of Proto-Indo-European, the accent was rather one of stress and unaccented syllables were subject to reduction and loss of vowels (cf. as in NE *prepáre* vs. [American] *prép'ratory*, [British] *prép'rat'ry*). However, reconstructible Proto-Indo-European certainly did not limit accent to syllables with full vowels (cf. **u̯ĺ̥k*^{w}*os* ' wolf' or **septḿ̥* 'seven'), nor were unaccented syllables necessarily without vowels (cf. the previous examples or **bhéromes* 'we carry'). Syllables with a full vowel are said to have "full-grade" while syllables without vowels are said to have "zero-grade". In addition, under certain circumstances a syllable might have a long vowel, or "lengthened-grade". The zero-, full- and lengthened-grades provide the basis of quantitative "ablaut". Full- and lengthened-grades might have either **-e-* or **-o-* and that interchange is called qualitative ablaut.

Different patterns of accentuation were morphologically important in Proto-Indo-European and it is convenient to anticipate the discussion of morphology here to outline these processes. Thus PIE nouns, for which we have fuller evidence than for verbs (evidence provided by Indic, Anatolian, Greek, Baltic, Slavic, and traces in Germanic, Iranian, and perhaps Tocharian), might have the accent fixed on a particular syllable throughout their paradigm or they might have a movable accent. In the latter case the accent appeared on different syllables of the paradigm depending on morphological conditions. Oversimplifying a bit, the accent was on one syllable in the nominative and accusative and on a subsequent syllable in all other cases. There were three mobile patterns: proterokinetic ("front mobile"), holokinetic ("completely mobile"), and hysterokinetic ("back mobile"). For convenience we can symbolize the three possible subparts of a Proto-Indo-European noun as R (for "root"), S (for "stem-formative"), C (for "case-ending"). A proterokinetic noun would have the accent (and a full vowel) on the root in the nominative and accusative and on the stem-formative in the other cases; schematically we have nominative and accusative as *éR-S-C, other cases as *R-éS-C. The holokinetic nominative and accusative have the accent on the root syllable, the other cases have accent on the case-ending: thus *éR-S-C and *R-S-éC. Finally, the hysterokinetic noun has the nominative and accusative accented on the stem-formative and the accent

Accent Types in Proto-Indo-European

Proterokinetic	Holokinetic	Hysterokinetic	Acrostatic
**$h_a$ói-u*	**pónt-ōh_2-s*	**pḫ̥$_a$-tḗr*	**bhréh$_a$-tēr*
**h_ai-óu-s*	**pn̥t-h_2-ós*	**pḫ̥$_a$-tr-ós*	**bhréh$_a$-tr̥-s*

otherwise on the case-ending: R-éS-C and *R-S-éC.

These patterns can be illustrated by **$h_a$óiu* 'life', **pónt-ōh_2s* 'way', and **pḫ̥$_a$tḗr* 'father'. The fixed accent (or acrostatic) **bhréh$_a$tēr* 'brother' is also given. The accent patterns (in the accompanying table) are shown by the nominative and genitive singulars (note that the nominative often lacks any overt case-ending).

Syntax and Morphology

Languages have basically two choices as to how they signal relationships of the various constituents of a sentence to one another: syntactically, i.e., by the order of the various elements (e.g., NE "Peter sees Paul" where one knows that is was Peter who did the seeing because it is the noun in front of the verb and likewise that it was Paul who was seen because that is the noun that follows the verb), or morphologically, i.e., by the form the various elements take in the sentence (e.g., Latin "*Petrus videt Paulum*" or "*Paulum videt Petrus*", or any other possible order, where one knows that Peter did the seeing because of the shape it takes, with the [nominative] ending *-us*, and Paul was the one seen because of its [accusative] ending *-um*). While most languages use both kinds of signals to some extent, they certainly differ in the degree to which the two methods are used. Contemporary English signals most, but not all, relationships through word order, while Latin relied to a considerable extent on morphology. All the other early attested IE languages, including Old English, are like Latin in this respect and it is certain that Proto-Indo-European itself relied heavily on morphological markers to signal intra-sentence relationships as well as many other things, such as number and gender in nouns and adjectives or tense, aspect, and mood in verbs.

Syntax

The usual order of a PIE sentence appears to have been Subject-Object-Verb (SOV), though other orders were possible, given different kinds of emphasis within the sentence. In particular, a variant with the verb in first place was a common way of focusing on the verb itself and might be found in imperative sentences or where it was desired to make a contrast between two adjacent sentences explicit (compare the Hittite sentence *akis-ma-as* 'but he died!' (*akis* = 'he died', *-ma* 'but'). This situation (namely with usual SOV order but with VSO as a common variant) is preserved more or less intact in Old Indic, Old Iranian, Hittite, and the oldest Latin. Homeric Greek varies between SOV and SVO as the most frequent word order. In Old Irish sentences with the verb-initial pattern have been generalized. The oldest attested Slavic has VSO as its most common word order but by no means its only one. Likewise, Tocharian, while verb final like Indic and Hittite, shows signs of having verb initial sentences as a common possibility at sometime in its prehistory (e.g., verb forms often have suffixed personal pronoun enclitics [*lyautsa-ñ* 'he drove me out'] that would be very unexpected in a verb-final language but which would be normal in a verb-initial language). The earliest Germanic shows all possible word orders while becoming predominantly SVO in its later history (as do Slavic, Greek and the Romance languages). Baltic and Albanian are predominantly SVO in their earliest attestations and they remain so.

Typologists set great store by the relative position of subjects, verbs, and objects because many other word order sequences within the sentence can be correlated with them, particularly with the order of verb and object. There is a strong tendency for OV languages to have postpositions and show Adjective-Noun, Genitive-Noun, and Relative Clause-Noun orders, while VO languages have prepositions and show the opposite orders (N-A, N-G, N-RC). This correlation is by no means perfect and SVO languages, like modern English, particularly tend to show mixed patterns like English's prepositions, A-N, N-G ~ G-N ("the horn of the car" ~ "the car's horn"), N-RC. Even VSO and SOV languages may be more or less rigid in the degree to which the verb must be sentence initial or final and the degree to which the other orders agree with the general expectations of VSO or SOV patterns. Japanese and Turkish, for instance, always have the verb in sentence final position and in all other respects match the SOV "type". Hindi, however, while generally SOV in type is not rigidly so.

The accompanying table shows the usual syntactic word orders of particular interest to syntactic typologists for the twelve well-attested branches of Proto-Indo-European. In each case the earliest attested patterns are the ones given and also in each case the dominant word order is given for each category, thus obscuring the difference between a language where the particular word order is rigid and a language where other variants are reasonably common. Where two possible word orders are very nearly equal in frequency both are given (though, in the absence of good statistical data, the notion of "very nearly equal in frequency" is not very well defined).

We might note that, if Proto-Indo-European had been a member of the rigid subgroup of verb-final languages, we might expect it to have had no relative clauses in the strict sense at all, but rather preposed participial phrases of some sort carrying the same information that relative clauses might carry. This is the situation that obtains, say, in Turkish and Japanese. Certainly Proto-Indo-European did have participial phrases; however, it is clear that relative clauses were also both possible and common. Moreover, the dominant PIE type of relative clause is quite certain. All early attested languages retain at least traces of preposed, correlative relative clauses where the relative pronoun is repeated as a demonstrative

Syntactic Types in Proto-Indo-European

Celtic (Old Irish)	VSO	NG	NA	prep
Italic (Latin)	SOV	NG	NA	prep
Germanic (Runic)	SOV	GN/NG	NA	prep
Baltic (Lithuanian)	SOV/SVO	GN	AN	prep
Slavic (Old Church Slavonic)	VSO	NG	NA/AN	prep
Albanian	SVO	NG	NA	prep
Greek	SOV/SVO	NG	AN/NA	prep
Armenian	SVO	NG	AN	prep
Anatolian (Hittite)	SOV	GN	AN	post
Iranian (Avestan)	SOV	GN/NG	AN/NA	prep
Indic	SOV	GN	AN	post
Tocharian (Tocharian B)	SOV	GN	AN	post

pronoun in its expected position in the main clause (e.g., '*who* ran the race, to *him* was given the prize'). This type is overwhelmingly the dominant one in Indo-Iranian (in Indic to this day), Anatolian, and Tocharian. The following sentences exemplify this pattern in the three oldest attested languages (examples from Watkins, 1976b): Hittite *nu tarhzi kuis dān pedass-a kuis nu-smas II TUG^{HIA} ERIN^{ME} pianzi* 'now who wins and who is in second place, now to them two uniforms they give', Greek *ὁς νυν ὀρκηστων παντων ἀταλωτατα παιζει, τω τοδε καλπον* 'who now of all the dancers most sportively plays, to him this *καλπον* (is)', or Old Indic *sa yo na ujjeṣyati tasyedam (= tasya idam) bhaviṣyati* 'he who of us will win, to him this will be'. In these three cases both topic and form would appear to be of PIE date. Archaic Latin shows the same syntactic pattern, *tum Sāturnō fīlius quī prīmus nātus est, eum necāverunt* (Ennius) 'then who was born first from Saturn, him they slew'.

Morphology

Just what semantic categories one thinks were signaled inflectionally in Proto-Indo-European depends in part on one's view of the relationship among the various stocks of Indo-European. As with vocabulary, not all stocks of Indo-European manifest the same list of inflectional categories, particularly some have a longer list than others. In general, the earlier the attestation of the group, the more complex the inflectional "package", and that, coupled with the fact that many IE stocks show a reduction in the amount of inflection they have during their recorded histories, suggests to investigators that Proto-Indo-European itself was highly inflected. However, there is one notable exception to the generalization that the earliest attested branches show more inflectional categories than those attested later, and that is Anatolian. Anatolian is attested earlier than any other branch but lacks some of the categories reconstructible from, say, Old Indic or Greek.

There are two possible explanations for this divergence: (1) Anatolian separated from the parent Proto-Indo-European at about the same time as the other branches and has simply lost some of the categories it inherited from Proto-Indo-European, or (2) Anatolian separated from Proto-Indo-European significantly earlier than the other groups and (some) of the categories that it does not share with them developed during the period after Anatolian had left but before any larger break-up of PIE unity. Of course, even if the second scenario is substantially correct, Anatolian could also have lost certain inherited categories at some time after it separated from "residual Proto-Indo-European" but before it was attested.

Noun and Adjective

With this caution in mind, let's look at the inflectional categories that are usually reconstructed for the PIE noun and adjective (categories not found in Anatolian are placed in parentheses). PIE nouns and adjectives distinguished

number, gender, and case. For number there were singular, (dual), and plural. For gender there were masculine, feminine (in Anatolian combined with the masculine in a single "common" gender), and neuter. For case there were (vocative), nominative, accusative, genitive, ablative, dative, locative (the latter two combined in Anatolian), and instrumental. It is worth noting that traces of both dual and a separate feminine have been claimed for Anatolian.

Gender was inherent in nouns (i.e., any noun was lexically marked as "masculine", "feminine", or "neuter", though some nouns could be lexically marked for more than one gender) but a matter of agreement for adjectives and other modifiers (i.e., adjectives took special shapes depending on whether they modified a masculine, feminine, or neuter noun). Much has been made of gender from time to time from the point of view of what it may tell about the world view of the speakers of a language with gender. The answer is probably not very much. While it is true that the masculine, feminine, and neuter genders do have an association with sex (e.g., in Indo-European languages most nouns referring to adult male humans are masculine, most nouns referring to adult female humans are feminine), an association which can be exploited in poetic or other "special" language, the association is not always absolute (e.g., in both Germanic and Greek diminutive nouns, whatever the sex of their referents, are neuter) and the primary use of gender would seem to be demarcative. The agreement of adjectives and other modifiers with their head nouns delimits the scope of a particular noun phrase. When agreement stops, the speaker is *inter alia* signaling the end of a noun phrase.

The various case markers signaled the role of the noun vis-à-vis other elements of the sentence. Thus the nominative case marked its noun as the subject and the accusative the direct object (or the goal of a verb of motion, e.g., *I went to Rome*). The genitive typically marked some sort of noun-noun relationship (e.g., *the car's horn*), the dative marked the beneficiary or human goal of some activity (e.g., *John gave Mary the book*), while the instrumental denoted instrument or association and the other two cases some sort of directional information (ablative marking the place *from*, the locative the place *toward* or *at*). The vocative is an exception in that, as the form used in direct address, it did not show any relationship with any other part of the sentence. All of the cases, except the nominative and vocative, could co-occur with locative adpositions or adverbs to show more complex, usually, local relationships. The shapes of the singular of an athematic noun (*p̥h_atḗr- 'father') and a thematic noun (*$h_1$ék̑u̯-o- 'horse'), i.e., a root to which the suffix *-e/o- has been added, are given in the accompanying table:

Neuter nouns differed from this pattern in that they made no distinction between the nominative and accusative. Thus *i̯ugóm 'yoke' acts as both subject and direct object. In all other ways, however, *i̯ugóm is shaped exactly as *$h_1$ék̑u̯os (save, of course, in the place of the accent).

nominative	*p̥h_atḗr	*$h_1$ék̑u̯os
accusative	*p̥$h_a$térm̥	*$h_1$ék̑u̯om
genitive	*p̥$h_a$trós	*$h_1$ék̑u̯os
dative	*p̥$h_a$tréi	*$h_1$ék̑u̯ōi (< *-oei)
locative	*p̥$h_a$tér(i)	*$h_1$ék̑u̯oi
ablative	*p̥$h_a$trós	*$h_1$ék̑u̯ōd (< *-oed)
instrumental	*p̥$h_a$tréh_1	*$h_1$ék̑u̯ōh_1 (< *-oeh_1)
vocative	*p̥$h_a$ter	*$h_1$ék̑u̯e

The plural is less easily reconstructed. There is a tendency in all IE groups for there to be fewer case distinctions in the plural than are found in the singular (the vocative is always identical with the nominative, as is the ablative with the genitive). It may be that some of the case distinctions which are attested for the plural are much later developments than the corresponding cases of the singular and less well integrated into the overall system. It is noteworthy that the Anatolian languages show many fewer distinctions in the plural than in the singular (only nominative, accusative, and genitive-dative-locative-ablative).

nominative	*p̥$h_a$téres	*$h_1$ék̑u̯ōs (< *-oes)
accusative	*p̥$h_a$térm̥s ?	*$h_1$ék̑u̯ons
genitive	*p̥$h_a$tróm	*$h_1$ék̑u̯om
dative	*p̥$h_a$tr̥mós ~	*$h_1$ék̑u̯omos ~
	*p̥$h_a$tr̥bh(i̯)ós ?	*$h_1$ék̑u̯oibh(i̯)os
locative	*p̥$h_a$tr̥su	*$h_1$ék̑u̯oisu
ablative	*p̥$h_a$tróm	*$h_1$ék̑u̯om
instrumental	*p̥$h_a$tr̥bhi	*$h_1$ék̑u̯ōis (< *-oeis)
vocative	*p̥$h_a$téres	*$h_1$ék̑u̯ōs (< *-oes)

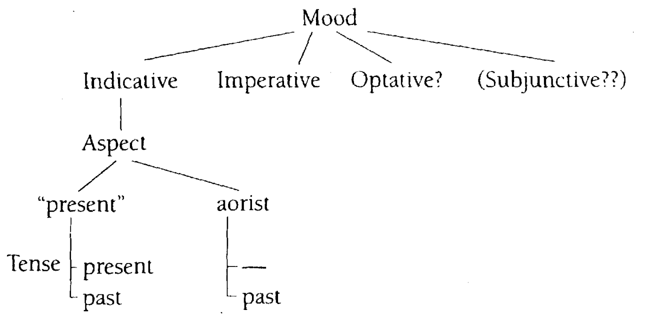
Again the neuter never distinguishes nominative accusative (for *i̯ugóm the nom.-acc. plural is *i̯ugéh_a).

Finally the dual is even more difficult to reconstruct, though it seems likely that one form of the nom.-acc. dual for masculine and feminine nouns was *-eh_1 (thus *p̥$h_a$téreh_1 'two fathers' or *$h_1$ék̑u̯ōh_1 'two horses') while the neuter showed *-ih_1 (e.g., *i̯ugóih_1 'two yokes').

Verbs

Reconstructing the PIE verb is a more difficult task than reconstructing the shape of nouns and adjectives, basically because the various IE stocks show considerably more diversity in their verbal systems than they do with their nominal systems. Since the latter part of the nineteenth century it has been the general practice to reconstruct a PIE verbal system which looks very much like that found in Greek or Indo-Iranian. This system shows two voices (active and medio-passive), three aspects ("present", aorist, and perfect), three tenses (present, past, and future), four moods (indicative, subjunctive, optative, and imperative), three persons (first, second, and third) and three numbers (singular, dual, and plural). While not all of the theoretical combinations of categories actually occurs (the future only shows up combined with "present" aspect, the imperative has no first person forms,

Verbal Categories of Proto-Indo-European



etc.), still the reconstructed verbal system is quite complex, just as the Greek and Indo-Iranian ones are quite complex. With the exception of Italic, the other IE branches have significantly less complex systems (cf. Germanic with two voices, no aspects, two tenses [present and past] and three moods [indicative, subjunctive, and imperative], three persons, and three numbers) and it has been generally thought that their relative simplicity was the result of the loss of various PIE categories and combinations of categories in those stocks. However, ever since the discovery of Hittite with a similarly simple system (two voices, two tenses, two moods [indicative and subjunctive/imperative], three persons, and two numbers), the consensus in favor of the fuller model has been fading in favor of reconstructing something simpler, and more like that attested in Hittite. The more elaborate, traditionally reconstructed, system would still be of PIE date, but only found in the southeastern dialect area of (late) Proto-Indo-European.

While the older consensus is fading, a new consensus has not yet developed. The arguments for preferring one system over another are both detailed and complex and would take us too far afield to rehearse them here. Thus, the description that follows should be thought of as one possibility only. We tentatively assume that PIE had two voices: active and medio-passive. The latter was used when the subject was seen as acting for him- or herself, e.g., OInd *yájate* or Greek **θύεται** 'he offers sacrifices for himself, on his own behalf'. It could also be used, though probably rarely, as a true passive with the object of the active verb (the "patient") transformed into the subject of the passive verb and the subject of the active verb (the "agent") expressed by the genitive, ablative, or instrumental case (e.g., Grk *ἄρχονται ὑπὸ βασιλέων* 'they are ruled by kings'). Proto-Indo-European probably had only an incipient aspectual distinction: the "present" denoting activities the speaker saw as on-going or repeated and the aorist denoting completed activities. The perfect, denoting actions that had some kind of on-going relevance, though widespread (seen in Indo-Iranian, Greek, Italic, Celtic, and Germanic) was probably a late, dialectal, creation of Proto-Indo-European. As to tense, Proto-Indo-European seems to have distinguished two, a present and a past. Those two are universal in IE languages. A separate future arose in most branches independently, though in Indo-Iranian, Greek, and Celtic (with traces in Balto-Slavic) it arose from a PIE desiderative formation (one expressing a desire to do something).

Proto-Indo-European also distinguished three persons, first (speaker), second (addressee), and third (non-participants in the conversation). These are also universal in IE languages. Germanic, Balto-Slavic, Greek, Indo-Iranian, and Tocharian all preserve three numbers (singular, dual, and plural) in the verb. The other groups do not. However, the Anatolian languages have a first person plural in *-wen* which in the dual-preserving languages would be a dual ending and it is a reasonable hypothesis at least that *-wen* should be taken as a trace of a formerly preserved dual in Anatolian. If so, reconstructing the dual to Proto-Indo-European seems assured. Finally, judging the numbers of distinct moods that existed in Proto-Indo-European is even more dependent on how we judge Anatolian's relationship with the rest of the Indo-European languages. All IE groups distinguish the indicative from the imperative. There is evidence for a distinct optative (for wishes or contrary-to-fact situations) in $*\text{-}\underset{\circ}{i}(e)h_1\text{-}$. It appears in or has left traces in eight groups (Italic, Germanic, Baltic, Slavic, Greek, Indic, Iranian, and Tocharian). It is probably PIE in age. A separate subjunctive (for mild commands, in subordinate clause, for possible events) in **-e/o-* manifests itself in Celtic, Italic, Greek, Indic, and Iranian (and just possibly in a single trace in Tocharian). If it were IE in age, its shape would have made it liable to confusion with the indicative of thematic verbs and we could account for its disappearance in those groups where it is not found on the basis of that confusion. However, it is not found, even in traces, in Anatolian, the one group where the indicative and subjunctive would not have become confused since simple thematic verbs are notably lacking in Anatolian. Its absence in Anatolian is a reasonably strong argument that the subjunctive in **-e/o-* was a late dialect feature of Proto-Indo-European that had not arisen when Anatolian became separated from the rest of Proto-Indo-European.

This discussion is summarized in the accompanying diagram of the verbal categories of Proto-Indo-European. Note that the categories of aspect and tense were only operative in the indicative mood in Proto-Indo-European (though they came to appear in other moods in a variety of ways in some IE groups).

In addition to these semantic categories, Proto-Indo-European would appear to have had two conjugations which were distinguished by different person endings, at least in the singular. The first conjugation was characterized by the first, second, third person singular endings **-m(i)*, **-s(i)*, **-t(i)*. The second conjugation was characterized by $*\text{-}h_2(e)(i)$, $*\text{-}th_2e(i)$, and **-e(i)*. The first conjugation was most often typified by **-e-* as the root vowel in the singular and no vowel (or a reduced vowel) in the dual and plural (though there were other vowel patterns). It can be exemplified by the paradigm for $*h_1es\text{-}$ 'be':

Singular	Plural
1 *h$_1$ésmi	1 *h$_1$smés
2 *h$_1$éssi	2 *h$_1$sté
3 *h$_1$ésti	3 *h$_1$sénti

The final *-i that appears as part of some of the person/number markers is in origin a separate particle that emphasized the "here and now" nature of what was being said. It is no doubt originally the same as the *-i that marks the locative singular of nouns. In any case, otherwise identical endings but without the final *-i (called "secondary endings" as opposed to the "primary endings" with *-i) were also to be found in a variety of uses, particularly with the modal sense of "is to" or "must" (the so-called "injunctive") or, when combined with a preceding particle *h$_1$e, in a past meaning (called the "imperfect"). This latter combination is found certainly only in Greek, Phrygian, Armenian, and Indo-Iranian, though it is possible that Baltic, Slavic, and Tocharian also show traces of it in certain of their past tenses. It may well have been, then, an innovation of the center and east of the IE world and not part of the verbal system of Proto-Indo-European in general.

The second conjugation comes in two varieties: a "basic" variety without a connecting theme vowel *-e/o- and one with the connecting vowel. The first subvariety of the second conjugation often had *-o- as the root vowel in the singular and no vowel (or reduced vowel) in the dual and plural (though again there were other vowel patterns possible). It can be exemplified by *nok̂- 'harm, destroy':

Singular	Plural
1 *nók̂h$_2$ei	1 *n$_e$k̂més
2 *nók̂th$_2$ei	2 *n$_e$k̂té
3 *nók̂ei	3 *n$_e$k̂énti

The second subvariety of the second conjugation, a type usually called "thematic verbs" (and opposed to the "athematic verbs" of the other two types), was characterized by the suffix *-e/o- and by *-e- as the accented root vowel throughout the paradigm. It can be exemplified by *bhér-e/o- 'carry':

Singular	Plural
1 *bhéroh$_2$	1 *bhéromes
2 *bhéreth$_2$e ?	2 *bhérete
3 *bhérei	3 *bhéronti

Even in Proto-Indo-European itself it would appear that the thematic type of conjugation II had borrowed the secondary endings (i.e., those without the final *-i) of the first conjugation. Thus the imperfect of *bhér-e/o- was *bhérom, *bhéres, *bhéret (or *h$_1$é bherom, etc.). The past of the athematic type of conjugation II was apparently characterized by the addition of *-i- and had yet another set of endings. The imperfect of *nok̂- would have been *nok̂-i-h$_2$u-, *nok̂-i-s-th$_2$e, *nok̂-i-s, (3rd. pl.) *n$_e$k̂-i-ēr (< *-ers) ~ *n$_e$k̂-i-r-(o)nt.

The medio-passive apparently always had person-number endings like that of conjugation II, except with a final *-r rather than *-i (though the latter came to characterize the medio-passive in the southeast, namely in Greek and Indo-Iranian).

Singular
1 *bhéroh$_2$er
2 *bhéreth$_2$er
3 *bhéror

1 *n$_e$k̂h$_2$ér
2 *n$_e$k̂th$_2$ér
3 *n$_e$k̂ór

The athematic type of conjugation II appears as such only in Anatolian, though Tocharian shows the same formation rebuilt a bit in the direction of conjugation I. Other IE groups show even fainter traces of it, rebuilt as the thematic type. Indeed, outside of Anatolian, the thematic verbs have become the dominant type in the various IE branches, to the point that athematic verbs typically remain, if at all, only as a small subset of irregular verbs such as NE *am, is*. However, at the same time that thematic verbs are becoming the dominant type, the person-number endings of conjugation I were replacing the person-number endings of conjugation II, including its thematic type. The accompanying chart indicates the varying degrees to which the conjugation I person-number endings of the singular have penetrated the paradigm of the thematic verbs (a plus indicates that the conjugation I form has replaced the conjugation II form; parentheses indicate that that replacement has happened demonstrably late in the history of that stock).

Conjugation II endings are most securely preserved in the (dialectal) PIE perfect. This formation, which signals some

The Association of Conjugation I Personal Endings with Thematic Verbs

	Celt	Ital	Gmc	Balt	Slav	Alb	Grk	Arm	Anat	Iran	OInd	Toch
1	-	-	-	-	-	-	-	+	+	(+)	(+)	+
2	+		+	-	+	-	-	+	+	+	+	-
3	+	+	+	-	(+)	-	-	+	+	+	+	-

prior activity that has resulted in an on-going state, in much the same fashion as the NE perfect tenses (e.g., "he has come", "she has brought the book"), looks a good deal like the conjugation II present given above, though without the "here and now" particle *-i and typically with reduplication. Thus the perfect to the root *derk̑- 'see' is *dedórk̑h$_2$e 'I have seen' or to the root *u̯eid- 'see' is *u̯óidh$_2$e 'I have seen' (whence > 'I know').

There have been several attempts to match the two conjugational patterns with some semantic distinction. The earliest such suggestion was to consider conjugation II endings as originally the markers of the middle voice and conjugation I endings as the markers of the active. More recently Gamkrelidze and Ivanov take conjugation II endings as marking an inactive (i.e., inanimate) subject in an intransitive sentence or an inactive object in a transitive one while the conjugation I endings marked active subjects in both transitive and intransitive sentences. Robert Beekes, on the other hand, proposes that the thematic verbs (one set, at least, of conjugation II) marked the presence of a definite object and athematic verbs (of conjugation I) marked the presence of indefinite objects. All such identifications remain most speculative. No stock of Indo-European distributes the two sets of endings in anything like the pattern that these hypotheses would require. No doubt the two sets must have reflected some semantic distinction at some point, but for reconstructible Proto-Indo-European they seem to have been merely markers of different conjugations.

Though not attested in Anatolian, the aorist is even more widely attested in the rest of Indo-European than the perfect and should probably be reconstructed for late Proto-Indo-European itself. Aorists were distinguished from presents by the shape of the stem. If the aorist took the shape of the verbal root with no additions, the present was distinguished by reduplication or some derivational suffix. Thus *deh$_3$- is the aorist shape of a verb meaning 'give; take' while *dideh$_3$- represents the present (therefore: *déh$_3$t ~ *h$_1$é deh$_3$t 'he gave' versus *dideh$_3$t ~ *h$_1$é dideh$_3$t 'he was giving'). Alternatively, it was the present that took the root shape and the aorist was derived by a suffix, usually *-s-, e.g., *déik̑t ~ *h$_1$é deik̑t 'was showing' versus *dēik̑st ~ *h$_1$é dēik̑st 'showed'.

Both the aorist and the perfect reflect derived verbs that became integrated into the verbal paradigm over time. But Proto-Indo-European had a rich selection of verbal derivatives besides those that became aorist and perfect. There were a number of derivatives, for instance, that created "iterative-intensives" (i.e., derived verbs that focused on the repetition of the action denoted by the underlying verb or on its unusual intensity) of one sort or another. Thus we have the derivational suffix *-eh$_a$- with differing grades of the root vowel in *dukéh$_a$- 'pull (along)' (Latin ē-ducāre 'bring up, rear, educate', OE togian 'tow', TochA täkā- 'move, agitate; consider') from *deuk- 'lead', *domh$_x$éh$_a$- 'subdue, tame' (Latin domat 'subdues', OHG zamōt 'tames', OInd damāyáti 'subdues'), or *lēkeh$_a$- '± move vigorously' (Latv lēkāju 'fly or jump about', Grk [Hesychius] ληκάω 'dance to singing'). A similar meaning is carried by the suffix *-i̯e/o- in *klépi̯e/o- 'steal' (Grk κλέπτω 'steal', TochB kälypītsi 'to steal') from *klep- 'lay hand to'. Another very frequent iterative formation is *-sk̑e/o-, e.g., *pr̥k̑-sk̑e/o- 'ask, question' (OIr arcu, Latin poscō, OHG forscōn [< *pr̥k̑-sk̑-eh$_a$-], Arm harc'i, Av pərəsaiti, OInd pr̥ccháti) or *g^{w}m̥-sk̑e/o- 'come' (Grk βάσκω, Av jasaiti, OInd gácchati, TochB känmäsk-).

Causatives (i.e., 'make or have [someone] do something') were formed by adding *-neu- (plus zero-grade of the root) or *-ei̯e/o- (plus o-grade) in *h$_1$r̥néu- 'cause to move' (Grk ὄρνῡσι 'moves, rouses, stirs', Hit arnuzzi 'moves along, makes go, stirs, raises', Av ərənaoiti 'sets in motion', OInd r̥ṇóti 'moves, arises') from *h$_1$ór- 'stand up, rise'; *torséi̯e/o- 'dry' (tr.) (Latin torrēre 'dry', OHG derrēn 'dry', OInd tarṣáyati 'dries') from *ters- 'be dry, dry out' (intr.); or *u̯oséi̯e/o- 'clothe' (OE werian 'clothe, cover over; wear', Gothic wasjiþ 'clothes', Albanian vesh 'clothe, dress, cover', Hit wassezzi 'clothes, dresses') from *u̯es- 'be dressed, wear'.

Verbs could be derived from nouns or adjectives by means of certain denominative suffixes. The most common, perhaps, was *-i̯e/o- as in *h$_1$nomni̯e/o- 'name' (Goth namnjan 'name', Grk ὀνομαίνω 'name', Hit lamniya- 'name') from *h$_1$ómn̥ 'name'. The suffix *-eh$_2$- created 'factitives' (i.e., 'make [something] the quality of the underlying noun or adjective'). Thus from *néu̯os 'new' we have *neu̯eh$_2$- 'make new' (Latin novāre 'make new, renew', OHG niuwōn 'make new, renew', Grk νεάω 'replow', Hit newahh- 'make new, renew'). There was also the suffix *-eh$_1$- which created verbs meaning 'be(come) the quality of the underlying noun or adjective' as in *h$_1$rudhéh$_1$- 'redden' (OIr ruidi 'blushes', Lat rubēre 'be red, blush', ON roða 'be red', OE rudian 'be ruddy', OHG rotēn 'be red', RusCS ruděti sę 'turn red', Lith rudéti 'rust, become rusty') from *h$_1$rudhrós 'red'. A verb such as *leukeh$_1$- 'shine, be bright' (Lat lūcet 'it is light, it is day', lūcēscit 'it grows light, day is breaking', Hit lukkeszi 'it grows light'), while presumably originally derived from *léuks 'light', might also be taken as a derivative of the verbal root underlying *léuks and such ambiguity eventually led to the extension of this suffix to purely verbal derivation as in the late, and dialectal, *steh$_2$eh$_1$- 'be standing, remain standing' (OIr tā 'is', Lat stāre 'stand', OHG stān 'stand', OCS stojatī 'stand').

Word Formation

Proto-Indo-European also had a rich system of derivation. As we have seen above, derived causatives or iteratives could be made from verbs. In addition, adjectives could be derived from verbs, and verbs from nouns or adjectives. As examples we might cite *h$_1$órei 'rises, moves' (intr.) > *h$_1$r̥-néu-ti 'sets in motion' (tr.) > *h$_1$ór-es- 'height', *témh$_x$-ti 'it grows dark' > *témh$_x$-es- 'darkness' > *t(e)msh$_x$-s-ró-s 'dark' or *h$_2$eh$_x$- 'burn, heat' > *h$_2$eh$_x$-ter- 'fire' > *h$_2$eh$_x$-tr-i̯o- 'chimney' (> 'atrium'). Most derivation, like the examples just illustrated, was done by way of suffixing, but nouns and adjectives might also make derivatives by a change of accent pattern (e.g., OInd kr̥ṣṇá- 'black', but kŕ̥ṣṇa- 'black antelope'), by ablaut or a

change of vowel (e > o, e > ē, o > ō), or both (e.g., *su̯ék̂uros 'father-in-law' > *su̯ēk̂urós 'pertaining to the father-in-law', later also 'brother-in-law', *u̯ódr̥ 'water' > *u̯édōr 'water [collective]'), or *$h_1$ósu (gen. *$h_1$ésu(o)s) 'a good thing' > *$h_1$ésus (gen. *$h_1$sóus) 'good'.

An extended illustration of PIE derivation may help to show the richness of the system. We can reconstruct, for instance, a neuter noun *póums '(human) body hair' (which by regular phonological processes would have had an alternative pronunciation *pṓms) whose genitive singular might have been *péums (older?) or *pumsós (newer?). By internal derivation, i.e., by a change of vowel and/or accent class, was made the feminine noun *péumōs whose meaning was more or less equivalent to the underlying neuter noun (cf. Latin *pūbēs* 'pubic hair, Shughni *pūm* 'down, fluff'). The relationship between *póums and *péumōs would be exactly the same as that between *u̯ódr̥ and *u̯édōr above. There was also a derived adjective *péumōs 'characterized by *póums' (cf. Latin *pūbēs* 'arrived at the age of puberty, adult; covered with down') which might itself be nominalized as 'one characterized by *póums' (cf. Latin *pūberēs* [pl.] 'adult men, men capable of bearing arms' [like French *poil* 'body hair' and *poilu* 'hairy; soldier'], OInd *púmān* [gen. *pumsás*] 'man, male'). Two later thematicizations of the basic neuter noun are *pums-o- (Albanian *push* 'down, hair, fiber, fur') and *pou(m)s-o- (Rus *pukh* 'down, fluff, fine hair'). External derivation, i.e., the addition of morphological material, give us *pōms-to-s in Av *pąsta-* 'skin, especially the hairy skin of men', *pou(m)s-ti-s in dialectal Lith *paustìs* 'animal fur', *peumos-neh$_a$- in OIr *uamann* 'skin', and *n̥-pumēs in Latin *impūbēs* 'below the age of puberty, beardless; boy'. (All these instances of external derivation are language specific though in each case they represent PIE morphological possibilities.) *póums is itself a derived *s*-stem and the *p(e)um- that lies behind it is seen in *pum-ró-s 'characterized by *póums' in Latin *pūbertās* 'puberty; growth of body hair; virility' (and it is this word that is the source of the *-b-* found throughout this word family in Latin), *peum-eh$_1$- 'be characterized by *póums' in Latin *pūbēns* 'arrived at puberty' and further in *peum-eh$_1$-sk̂e/o- 'become characterized by *póums' in Latin *pūbēscō* 'come to the age of puberty', and in *pou̯m̥-go-on- 'beard' in Greek πώγων 'beard'. Finally *p(e)um- is itself derived from *pu- otherwise seen in *pu-lo-s 'single hair (of the human body)' as in MIr *ul* 'beard', Grk (Hesychius) πύλιγγες (pl.) 'hairs of the body' or OInd *pulakās* (pl.) 'hairs bristling from delight or apprehension'.

A somewhat different derivational process than those illustrated before is the addition of "enlargements" to verbal roots, e.g., *ten- 'stretch' > *ten-s- or *ten-gh- 'stretch' or *$h_2$eh$_x$- 'burn, heat' > *$h_2$eh$_x$-s- in *$h_2$éh$_x$s-eh$_a$- 'hearth', *h_2h̥$_x$s-tér- 'ember' (later 'star'). As in these examples, the addition of an enlargement often does not seem to have very large semantic consequences. It is likely that they reflect some sort of verbal derivational processes that were already obsolete in the latter stages of Proto-Indo-European that we can recover by linguistic reconstruction. What might be thought of as a kind of enlargement, albeit this time as a prefix to the root, is the so-called "s-mobile" which occurs facultatively before some PIE roots (cf. the descendants of one such pair in NE *melt* and *smelt*). As with the suffixed enlargements there seems to be no constant semantic difference between the prefixed and unprefixed form.

Finally, Proto-Indo-European made extensive use of reduplication, the partial repetition of (usually) the first consonant (with a following vowel) of a root. Thus from *steh$_2$- 'stand' we find *sti-steh$_2$-mi 'I stand' or from *k^{w}el- 'turn' we have *k^{w}é-k^{w}lom 'wheel' (< 'the turner'). Such reduplication was particularly common as a characterization of aspectually "present" verbal stems (e.g., *sti-stéh$_2$-mi 'I stand' but *stéh$_2$-m ~ *h_1é steh$_2$-m 'I stood up') and of the dialectally important perfect (*de-dork̂-e 'he/she has seen').

Proto-Indo-European was also rich in compound adjectives and nouns. Particularly common were compounds with a meaning 'having X + Y', e.g., *h_2r̥ĝi-p(t)h$_a$i̯ós 'swift-winged' (Greek αἰγυπιός [with phonological deformation] 'vulture', Arm *arcui* 'eagle', Av *ərəzifya-* 'eagle', OInd *r̥jipyá-* 'swift-winged [of eagles, arrows]; eagle'), *$h_1$su-menés 'well-minded' (Greek εὐμενής 'well-disposed, favorable', Av *humanah-* 'having good thought', OInd *sumánās* 'well-disposed, gracious'), or *k^{w}etu̯r̥-pod- 'animal' (< *'four-legged') (Latin *quadrupēs* 'four-footed; four-footed animal', Umb *peturpurs-* 'four-footed animal', Myc *qe-to-ro-po-pi* [instr.] 'having four feet', Greek τετράπους 'four-footed; four-footed animal [particularly cattle]', OInd *catuṣpad-* 'four-footed animal'). Other types of compounds were also possible. For example the first part of a compound might further specify or limit the second part as in *u̯ik̂-potis 'lord' (lit. '± settlement-master') in OPrus *waispatti-* 'wife', Lith *viẽšpats* 'lord (God); ruler', Albanian *zot* (< *u̯ik̂ā-pot-) 'lord', Av *vīspaiti-* 'lord', OInd *viśpati-* 'lord of a house, chief of a settlement or tribe'. Another type of compound is found commonly in numbers, e.g., *u̯i-(d)k̂m̥tih$_1$ 'twenty' (< *'two tens').

See also Indo-European Languages; Reconstruction; Schleicher's Tale; Subgrouping. [D.Q.A.]

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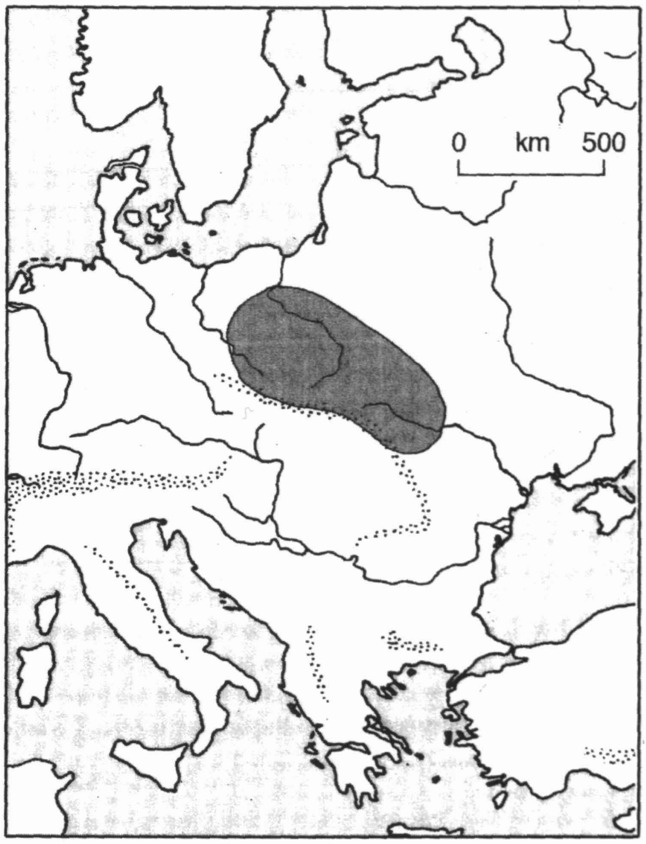
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PRZEWORSK CULTURE

The Przeworsk culture is an Iron Age culture (second century BC–fourth century AD) of south and central Poland and the west Ukraine. It is sometimes coupled with the more easterly Zarubintsy culture to represent the culture of the Iron Age Slavs. There are about forty sites known which include undefended agricultural settlements with small semi-subterranean (later surface) dwellings and large cemeteries. Burial was by cremation in a pit or urn and some burials are accompanied with weapons. Among those who look to Poland as the Slavic homeland, the Przeworsk culture shows continuity with preceding cultures (Lusatian) and insures that the Slavic homeland was in this territory from whence the Venedi, one of the earliest historically attested Slavic tribes, are specifically derived. On the other hand, Germanicists have argued that the Przeworsk culture was occupied by the Elbe-Germanic tribes (from where the Vandals or Burgundians originated) and there are also those who argue that the Przeworsk reflects both a Germanic and a Slavic component.

See also SLAVIC LANGUAGES; ZARUBINTSY CULTURE.

[J.P.M.]



Przeworsk a. Distribution of the Przeworsk culture.



Przeworsk b. The Grinev plaque which has been interpreted in terms of a continuous narrative describing the origin of a tribe. The uppermost register depicts a wolf, then a griffon, a marriage scene, a ram and then an armed rider.

PULL

deuk- 'pull'. [*IEW* 220 (**deuk-*); Wat 12 (**deuk-*); Gl 500 (**t'euk*^{h}*-*); Buck 9.33]. (1) pres. **déuke/o-*: Lat *dūcō* 'lead; fetch; deduce', ON *toginn* 'pulled', OE *tēon* 'pull', OHG *ziohan* 'pull', Goth *tiuhan* 'pull, lead', Alb *nduk* 'pull hair out', Grk (Hesychius) *δεύκει* 'considers, reflects'; (2) pres. **duk-éh*$_a$*-*: MWels *dygaf* 'bring', Lat *-ducāre* 'lead', ON *toga* 'tow', OE *togian* 'tow' (> NE *tow*), OHG *zogōn* 'pull', TochA *tkā-* 'will stir; will consider'. Cf. ON *teygja* 'tie', OE *tīegan* (< **doukeie/o-*) 'tie', ON *tjōa* (< **deukeh*$_a$*-*) 'help', Grk *δαιδύσσεσθαι* 'rub, drag'. Quite widespread; certainly old in IE. It is noteworthy that in a number of stocks this word has taken on cognitive meanings in addition to the original physical ones. The cognitive extensions may well be of PIE date.

dhregh- 'pull, tear (out)'. [*IEW* 257 (**dherāgh-*); Wat 15 (**dhragh-*); Buck 9.33]. ON *draga* 'pull' (borrowed > NE *drag*), *drōg* 'stripe', OE *dragan* 'pull' (> NE *draw*), OHG *tragen* 'carry', Lith *dìrginu* 'stimulate, stir, excite', Latv *dragāju* 'tear', OCS *drŭgnǫti* 'pull', Rus *dërgatĭ* 'pluck, tear', *doróga* 'way, journey', *dorózitĭ* 'hollow out', Czech *dražiti* 'make a groove or furrow; hollow out'. Probably related is Lat *trahō* 'pull' though the initial *t-* and the vowel *-a-* are a bit difficult. A word of the northwestern part of the IE world.

selk- 'pull' (pres. ***sélke/o-***). [*IEW* 901 (**selk-*); Wat 57 (**selk-*); Gl 106, 595 (**s*^{o}*elk*^{h}*-*); Buck 9.33]. Lat *sulcus* 'furrow', *sulcāre* 'to plow', OE *sulh* 'furrow, plow' (> NE *sullow*), Grk *ἕλκω* 'pull', TochB *sälk-* 'pull out'. The geographical extension suggests PIE status.

h*$_4$*uelk- 'pull'. [Gl 595]. Lith *velkù* 'pull', Latv *vęlku* 'pull', OCS *vlěkǫ* 'pull', Alb *heq* 'pull (out), remove', Grk *ὦλκα* (acc.) ~ *αὖλαξ* (< **h*$_4$*uolk-* ~ *h*$_4$*ulk-*) 'furrow', Av *frāvarčaiti* 'carries off'. A "rhyme-word" of the preceding, confined to the center and east of the IE world.

See also Drive; Plow. [D.Q.A.]

PUNISH *see* STRIKE

PURE

?*h*$_a$*idhrós 'pure' (< *'burned'). [*IEW* 11–12 (**ai-dh*); cf. Wat 1 (**aidh-*)]. Grk *ἰθαρός* 'cheerful, glad; pure', OInd *vīdhra-* (< *vi* + *idhra-*) 'clean, clear, pure'. A derivative of **h*$_a$*eidh-* 'burn'. Possibly a word of the center and east of the IE world, though it is also possible that we have independent innovations in Greek and Old Indic.

See also Burn; Clean. [D.Q.A.]

PUS

pūh*$_x$*es- 'putrefaction, pus'. [IEW 848–849 (**pū-*)]. Lat *pūs* 'pus', Lith *puvẽs(i)ai* 'rotten things', *pūliai* 'pus', Latv *puveši* 'pus', Grk *πύος* 'pus', Arm *hu* 'purulent blood'. From **peu(h*$_x$*)-* 'stink, rot'. A late word of the west and center of the IE world.

See also Anatomy; Medicine; Rot; Sick. [D.Q.A.]

PUSH

****(s)teud-*** 'push, thrust' (pres. ****(s)tunéd*^{s}*ti***). [*IEW* 1033–1034 (**(s)teu-d-*); Wat 66–67 (**(s)teu-*); Buck 10.67]. OIr *do-tuit* 'makes to fall', Lat *tundō* 'push, strike', *studeō* 'strive, study', *studium* 'zeal' (borrowed > NE *study*), ON *stauta* 'thrust', OHG *stōzan* 'thrust', Goth *stautan* 'strike', Alb *shtyj* (< **stūdnie/o-*) 'push', OInd *tudáti* ~ *tundate* 'pushes, strikes, stings'. Widespread and old in IE.

****uedh-*** 'push, strike'. [*IEW* 1115 (**uedh-*); Wat 73 (**wedh-*); Buck 10.67; BK 478 (**wad-/*wəd-*)]. OIr *fodb* (< **uodhuo-*) 'weapon', *fáiscid* 'presses', MWels *gwascu* 'press', OPrus *wedigo* 'wood-ax', Lith *vedegà* a kind of ax, Grk (Hesychius) *ἔθει* 'destroys', *ὠθέω* 'shove, thrust', Hit *wezz-* ~ *wiwida-* 'strike, urge', OInd *vadhati* 'strikes, pushes, slays', TochA *wac* 'struggle, battle', TochB *wät-* 'fight', *weta* 'struggle, battle', *yatwe* (< **uedhuo-*) 'whip'. Cf. the derivative **uedhris* in Grk (Hesychius) *ἐθρίς* 'castrated', OInd *vádhri-* 'castrated'. Widespread and old in IE.

****(s)peud-*** 'push, repulse; push after'. [*IEW* 998 (**(s)p(h)eu-d-*); Wat 64 (**(s)peud-*)]. Lat *pudet* 'shames', *repudium* 'casting off, divorce', Lith *spáudžiu* 'press, squeeze, wring (one's heart)', *spūdėti* 'drudge, torment oneself', *spaudà* '(printing) press', Alb *punë* (< **pudneh*$_a$*-*) 'work', Grk *σπεύδω* 'urge on, hasten; strive after eagerly', *σπουδή* 'haste, speed; zeal, pains', Arm *p'oyt'* (gen. *p'ut'oy*, with *-t'-* rather than **-t-*) 'zeal', NPers *poy* 'haste, speed'. At least a word of the west and center of the IE world.

****skeubh-*** 'push away, push ahead'. [*IEW* 955 (**skeub-* ~ **skeubh-* ~ **skeug-*); Wat 60 (**skeubh-*); Buck 10.67]. ON *skūfa* ~ *skýfa* 'shove, push away', OE *scūfan* ~ *scēofan* 'shove' (> NE *shove*), OHG *scioban* 'shove', Goth *af-skiuban* 'shove away', Lith *skùbti* 'hurry', *skubùs* 'quick', OCS *skubǫ* 'pluck, tear off'. A word of the IE northwest.

****neud-*** 'push (away)'. OInd *nudáti* 'pushes', TochB *nätk-* (< **nud-sk̑e/o-*) 'thrust, push (away); urge'. A dialect word of the east of the IE world.

****telk-*** 'push, thrust'. [*IEW* 1062 (**telegh-*); Buck 9.21, 10.67; BK 108 (**t[*^{h}*]al*^{y}*-/*t[*^{h}*]əl*^{y}*-*)]. OIr *tolc* 'blow', Wels *talch* 'fragment, flake', Lith *tìlkti* 'be tame', OCS *tlŭko* 'knock', Rus *tolkátĭ* 'push, shove', *toloknó* 'crushed oatmeal'. A word of the northwest of the IE world.

****reudh-*** '± push back'. [cf. *IEW* 869 (**reudh-*) ; Wat 55 (**reudh-*); VW 409]. NE *rid* (< Proto-Gmc **rudjan*), Av *raod-* 'hold at a distance, check, impede', OInd *rudh-* 'check, restrain, hold back', TochAB *rutk-* (< **reudh-sk̑e/o-*) 'move; remove, take off'. The Germanic and Tocharian forms, though differing in morphology, reflect "eventive" derivations, '± to push back/move into a checked state', from the non-eventive meaning preserved in Indo-Iranian.

?*ureg- 'press, oppress'. [*IEW* 1181 (**ureg-*)]. Lat *urgeō* (< **urgeie/o-*) 'press, oppress', ON *reka* 'avenge, punish; rescue', OE *wrecan* 'avenge, punish; rescue' (> NE *wreak*), OHG *rehhan* 'avenge, punish; rescue', Goth *wrikan* 'persecute'. It is not certain that the Germanic and Latin words

belong together. If they do, then we have evidence for a late western dialectal word in IE.

See also PRESS. [D.Q.A.]

PUT

dheh*$_1$-** 'put, place' (pres. ***dhídheh*$_1$*ti). [*IEW* 235–236 (**dhē-*); Wat 13 (**dhē-*); GI 21 (**d^{h}ē-*); Buck 12.12; BK 70 (**diy-/*dey-*)]. From the present **dhídheh*$_1$*ti*: Grk *τίθημι* 'sets', Av *daδāiti* 'puts, brings', OInd *dádhāti* 'puts, places, lays', TochB *tattaṃ* 'will put, place'; other, newer presents are reflected in Lat *facere* 'do', *-dere* in *ab-dere* 'take away', *con-dere* 'build, found, establish', *crēdere* 'believe' (< **k̂red-dheh*$_1$- 'put one's heart'), OE *dōn* 'do' (> NE *do*), OHG *tuon* 'do', Lith *dėti* 'lay', OCS *děti* 'lay', Arm *dnem* (< **dheh*$_1$*-ne/o-*) 'put, place', Hit *dāi* (< **dheh*$_1$*-i-ei*) 'puts, lays', *tēzzi* (< **dheh*$_1$*-ti*) 'says', *tittiya-* (< **didh*$_1$*i̯e/o-*) 'establish', *tittanu-* 'set up', Lycian *tadi* 'puts, places', TochAB *tä-* ~ *täs-* 'put, lay'. Most of these latter presents are built on the analogy of the aorist stem **dheh*$_1$- seen, as aorists, in Arm *ed* 'put, placed', OPers *adā* 'put, placed', OInd *ádhāt* 'put, placed' (< **h*$_1$*édheh*$_1$*t*). Widespread and old in IE; *the* PIE verb for putting and placing.

stel- 'put in place, (make) stand (up)'. [*IEW* 1019–1020 (**stel-*); Wat 66 (**stel-*); GI 101; Buck 12.12]. ON *stjǫlr* 'stem, stalk', *stallr* (< **stolno-*) 'stall', OE *stela* 'stalk, support', *steall* 'standing place, position, stall, stable' (> NE *stall*), *stellan* (< **stolnei̯e/o-*) 'put, place', OHG *stal* 'standing place, position, stall', *stellen* 'set up, establish', OPrus *stallit* 'stand', Alb *shtjell* 'fling, toss, hurl', Grk *στέλλω* 'make ready, fit out with; send, dispatch', OInd *sthálam* 'eminence, tableland; ground, earth; dry land' (with the initial consonant cluster influenced by *sthā-* 'stand'). Compare the further derived form seen in OLat *stlocus* 'place', Lat *locus* 'place'. Widespread and old in IE.

?*dheig^w- (or ***dheih*$_x$*g*^{w}-**?) 'stick, set up'. [*IEW* 243–244 (**dhēig^u-*); Wat 15 (**dhīg^w-*)]. OLat *fīvō*, Lat *fīgō* '(af)fix, fasten, drive in, attach, erect', OE *dīc* 'trench, moat' (> NE *dike*), MHG *tīch* 'pond, pool; dam, embankment', Lith *díegiu* 'prick; plant, sow', *dýgstu* 'germinate, sprout', Latv *diêgt* 'prick'. It is not certain that all these words belong together; particularly problematic are the Germanic words for semantic reasons. If they do belong together, we have evidence for a word of the northwest of the IE world.

See also PUT IN ORDER; STAND. [D.Q.A.]

PUT IN ORDER

tāg- (***teh*$_a$*g-***?) 'set in place, arrange'. [*IEW* 1055 (**tāg-*); Wat 69 (**tāg-*)]. Lith *su-tógti* 'get married; ally oneself with' (< *'arrange oneself with'), Grk *τάσσω* (< **tag-i̯e/o-*) 'put in order, line up, arrange', *τάγμα* 'ordinance, command', (Thessalian) *τᾱγός* 'commander, ruler, chief', Parth *tgmdr* '± commander' (i.e., */tagma-dāra-/* 'command-giver'), TochA (pl.) *tāśśi* 'chiefs, commanders', TochB *tāś* 'commander' (Toch < **tagi̯us*). At least a word of the center and east of the IE world.

i̯et- 'put in the right or natural place'. [*IEW* 506–507 (**i̯et-*)]. OIr *ītu* (*DIL āt(t)u*) (< **i̯ētu-tūt-*) 'thirst', Wels *add-iad* 'longing' (the Celtic shows a meaning such as 'want the right or natural place'), SC *jatiti se* 'flock together', Av *yateiti* ~ *yatayeiti* 'puts oneself in the right or natural place', Sogd *py't-* 'adorn', OInd *yátate* 'puts oneself in the right or natural place', TochAB *yät-* 'decorate, adorn' (< *'± put into the right place'; cf. Lat *ōrnāre* 'to adorn' < **ōrdināre*), *yetwe* 'jewel, decoration', *yāt-* 'be capable of (intr.); have power over; tame (tr.)'. Though preserved only on the margins of the IE world, it is clearly old.

***reh*$_1$-** 'put in order'. [*IEW* 59–60 (**rē-dh-*); BK 595 (**ra-ay-/*rə-ay-*)]. Lat *reor* 'count, calculate'; **roh*$_1$*-dh-*: OIr *rād-* 'say', MWels *adrawδ* 'recount', Av *rād-* 'prepare', OInd *rādhnóti* 'achieves, prepares'; **roh*$_1$*-dh-ei̯e/o-* (causative): ON *rœða* 'talk', Goth *rōdjan* 'talk', OCS *raditi* 'take care of, concern oneself over'. The connection of the Latin form here is uncertain. Otherwise, the root is fairly well attested to PIE.

sem- 'put in order, put together'. [*IEW* 902–905 (**sem-*); Wat 57 (**sem-*)]. ON *semja* (< **somh*$_x$*ei̯e/o-*) 'put together, put in order, unite', OInd *samayati* 'puts in order', TochB *ṣäṃs-* (< **sem-s-e/o-*) 'count'. Presumably a verbal derivative of **sem-* 'one, a unity'. Sufficiently widespread to be plausibly PIE in date.

See also LEADER; PUT. [D.Q.A.]

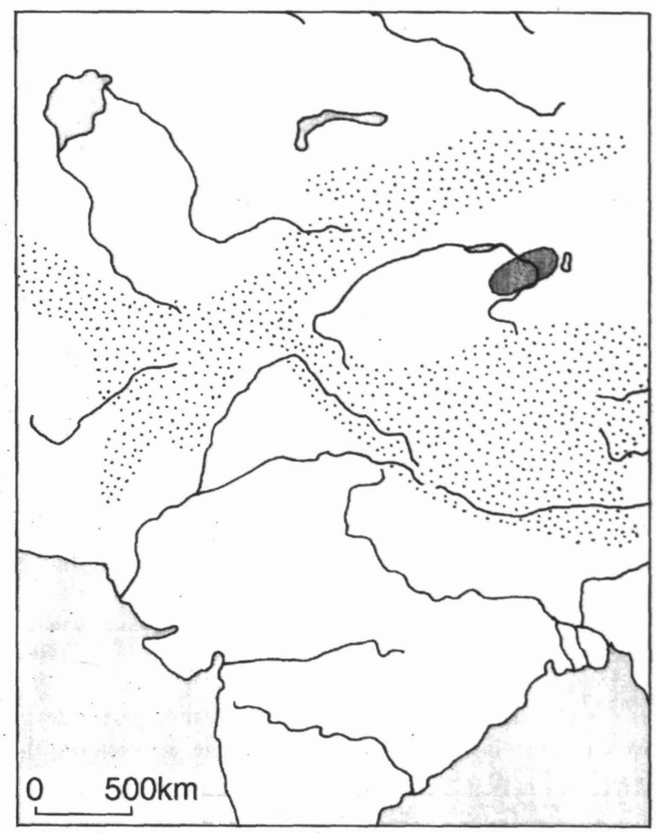
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QÄWRIGHUL CULTURE

The Qäwrighul culture (or, in Chinese the Gumugou culture) is a late Bronze Age culture of Xinjiang, China, which provides a possible candidate for the ancestor of the Tocharians. The culture, which dates to *c* 1800 BC, is situated in Xinjiang in the barren uplands along the Könchi (Peacock) river. It is almost exclusively known from its cemeteries, the best attested being the eponymous site of Qäwrighul where forty-two burials were recovered.

The tombs are divided into two types. The first comprised shaft graves which included evidence of wooden planking and, on occasion, wooden poles erected on the eastern and western ends of the chamber. The deceased were in the extended position, heads to the east. They were wrapped in woolen fabrics and bore felt hats. Twigs of ephedra were discovered on the chest. Grave goods included stone implements, bone ornaments, antler awls, wooden basins and bowls; there was no evidence of ceramics although there were some traces of metal (copper or bronze). The second type of burial, so far exclusively confined to males, consisted of shaft graves that had been surrounded by concentric circles of poles and others poles radiating out to form what have been interpreted as solar symbols. The differences between the two types of burials have been variously explained as status differences within the same culture or as chronologically separate cultures, the second type reflecting a somewhat later population.

Economic remains retrieved from the tombs suggest an economy which at least included wheat (handfuls of which were placed in baskets near the head of the deceased), domestic sheep/goat, horses; deer and fish remains are also noted.



Qäwrighul Distribution of the Qäwrighul culture.

The preservation of the bodies ranges from poor to incredibly good with a number of desiccated "mummies", which had been naturally preserved in the arid sandy conditions.

Both the evidence of the skeletons and that of the mummies indicates a Europoid population. Burials in tombs of the first type have been likened to those found in the Afanasevo culture of the Yenisei–Altai region while those in the second type have been associated with the Andronovo physical type. The employment of timber circles about the tomb has also been linked to the Andronovo practice of surrounding tombs with stone circles. Similar burials have been recovered from several other sites with dates ranging all the way up to the first millennium AD.

A Europoid population with connections with those of the Eurasian steppe provides one of the most likely archaeological candidates for the Proto-Tocharians although, it must be admitted, the specific cultural links (as opposed to those based on the evidence of physical type) are few and until settlements of this culture are excavated and the full range of material culture has been recovered, the origins, chronological range, and true significance of the Qäwrighul culture must remain speculative.

See also **Afanasevo Culture**; **Andronovo Culture**; **Tocharian Languages**. [J.P.M.]

Further Readings

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Mair, V. (ed.)(1995) The mummified remains found in the Tarim Basin. *JIES* 23, 281-444.

QUAIL

u̯ortok^{w}- 'quail'. [*IEW* 1180 (**u̯ortoko-*)]. Grk *ὄρτυξ* 'quail', OInd *vartaka-* 'quail'. At least a late IE isogloss. The only other potential comparison is Arm *lor* 'quail' which may be related to Grk *λάρος* 'gull'.

The quail is one of the commonest game birds and flies seasonally in great flocks aiding its capture by nets and other means.

See also **Birds**; **Gamebird**. [J.A.C.G.]

QUEEN *see* KING

QUERN

g^{w}réh$_{a}$-u̯-on- ~ *g^{w}érh$_{a}$-n-u-s (gen. ****g^{w}r̥h$_{a}$nóus***) 'quern'. [*IEW* 477 (**g$^{u̯}$r̥̄-nu-*); Wat 25 (**g^{w}erə-*); GI 599 (**k^{o}rāu-*), 770; Buck 5.57; BK 345 (**k'^{w}ur-/*k'^{w}or-*)]. From **g^{w}réh$_{a}$-u̯-on-*: OIr *brāu* (*DIL brō*) (gen. *broon*) 'millstone, quern', Wels *breuan* 'quern', OInd *grā́van-* 'stone for pressing the soma'; if TochB *kärwene* 'stone; (coll.) rock' belongs here it reflects **g^{w}r̥h$_{a}$-u̯-on-en-*; from **g^{w}érh$_{a}$-n-u-*: ON *kvern* 'quern', OE *cweorn* 'quern' (> NE *quern*), OHG *quirn* 'quern', Goth *asilu-qaírnus* 'donkey-mill', OPrus *girnoywis* 'quern', Lith *gìrna* 'millstone', (pl.) *gìrnos* 'quern', Latv (pl.) *dzir̃nus* 'quern', OCS *žrŭny* 'quern'; Arm *erkan* 'quern' is ambiguous as to its exact PIE antecedents. From **g^{w}er(h$_{a}$)-* 'heavy'. Though the exact PIE preform is difficult to reconstruct (why some reflexes show extensions **-u-n-* and others **-n-u-* is a mystery), there seems a strong likelihood that there was a PIE word more or less of this shape with this meaning. Given its plausible derivation from a PIE 'heavy', it is difficult to see, as GI argue, this word as a borrowing from Proto-Semitic **gurn-* 'threshing floor', which seems distant semantically anyway.

Querns were a regular accompaniment of the Neolithic tool-kit which emerged in southwest Asia by the ninth millennium BC. The term is usually applied to the larger lower stone, generally flattened with a concave surface, the *metate* of New World archaeologists, while a second stone held in the hand (the *mano* of American archaeological terminology) was used as a rubber or grinding stone. Querns are found wherever an economy required the necessary technology to process plants, particularly domestic cereals, but also wild seeds and they emerge in the archaeological record prior to the domestication of the earliest strains of wheat and barley. Grinding seeds was not their only function, however, and on occasion they are found in contexts where they would have been employed in the grinding up of substances such as ocher as a coloring agent. Querns are ubiquitous across Neolithic Eurasia and provide no indication as to the location of the earliest Indo-Europeans. In addition to their economic importance, they are also found in cultic contexts in southeast Europe, for example, where shrines included the remains of querns, rubbing stones, female figurines and even ovens suggesting ritual preparation of grain.

See also **Agriculture**; **Grind**; **Tool**. [D.Q.A., J.P.M.]

Further Reading

Makkay, J. (1978) Mahlstein und das rituale Mahlen in den prähistorischen Opferzeremonien. *Acta Archaeologica* 30, 13–36.

QUIET

h$_{1}$erh$_{1}$- 'quiet, at rest'. [*IEW* 338 (**erə-*), 864 (**rem-*); Buck 12.19]. (1) **h$_{1}$erh$_{1}$-m-* 'to rest, support': OIr *fo-ruimi* 'set, lay', Wels *araf* 'quiet, calm, gentle', Goth *rimis* 'rest', Lith *rìmti* 'to be calm', Latv *ràmas* 'still', Grk *ἐρῆμος* 'lonely, solitary', Av *rāmayeiti* 'calms down', *airime* 'quiet', OInd *rámate* 'stays still, calms down'; (2) **h$_{1}$reh$_{1}$-u̯eh$_{a}$-* 'quiet, calm, rest': ON *rō* 'calm', OE *rōw* 'calm', OHG *rōa ~ ruowa* 'calm', Lith *rovà* 'calm', Grk *ἐρωή* 'quiet'. While the precise form and details are not yet clear, some form of this root (with two different suffixes) can be posited for PIE. The semantic field here seems to be associated with the "absence of motion" rather than "silence".

k^{w}eih$_{1}$- 'rest, quiet'. [*IEW* 638 (**k$^{u̯}$ei̯ə-*); Wat 33 (**k^{w}eiə-*); GI 205 (**k^{ho}ei̯H-/*k^{ho}i̯eH-*); Buck 12.19]. Lat *quiēs* 'quiet', ON *hvīld* 'quiet', OE *hwīl* 'while, time' (> NE *while*), OHG *(h)wīla* 'while, time, hour', Goth *ƕeila* 'while', OCS *pokojĭ* 'peace, quiet, rest', Arm *han-gist* 'rest, quiet', OPers *šiyāti-* 'comfort'. A further development with a suffix attests **k^{w}ii̯eh$_{1}$-tos*: Lat *quiētus* 'quiet', Av *šyāta-* 'happy'. Some

proposed connections such as TochA *śät* 'rich', TochB *śāte* 'rich' are questionable on semantic grounds; Lith *kė̃lena(s)* 'short period of time, a while' may rather be < *kélti* 'to move' and OInd *cirá-* 'long(-lasting)' < *cinóti*. Still the remaining forms could warrant positing a PIE root, built on $^*k^weih_1$- 'to rest comfortably'.

(s)tel- 'be still, quiet'. [*IEW* 1061–1062 (**tel-*); Wat 66 (**stel-*)]. OIr *tuilid* 'sleeps', ON *stilla* 'to still, soothe', OE *stillan* 'to still', *stille* 'still' (> NE *still*), OHG *stillen* 'make still', *stilli* 'still', Lith *tylà* 'quiet person', *štilùs* 'quiet, silent', Latv *stilt* 'become quiet'. OCS *tĭlějǫ* 'decay' is unclear but could belong here. Only attested in the northwest.

t(e)h₂u-s- 'quiet'. [*IEW* 1056–1057 (**taus-*); Buck 12.19]. OIr *tōe* 'silently, still', MIr *tai* (< **tausos*) 'silent', Lith *tausýtis* 'to die down, become quiet (of the wind)', Rus *tušitĭ* 'extinguish, quench', OInd *tūṣṇīm* 'quiet, silent'. To these may possibly be added Hit *tuhuss(i)ye-* 'to look on inactively'. Cf. also OIr *tāue* 'silence', Wels *taw* 'silence'. Swed *tyst* 'silent' (OSwed *thyster*) has been connected here, as well as OPrus *tusnan* 'quiet', Av *tušni-* 'still'. Distribution suggests a good case for PIE antiquity.

?*lēnos (***leh_1nos***) '?quiet'. [*IEW* 666 (**lē-no-*)]. Lat *lēnis* 'soft, mild', Lith *lė́nas* 'quiet, slow', Latv *lę̄ns* 'quiet', OCS *lěnŭ* 'lazy'. This set is limited to the northwest and may reflect parallel developments from an underlying verbal form $^*leh_1(i)$- 'to leave', but even there the meaning of the Latin form differs. At any rate, at best a northwestern dialectal term.

See also SILENT. [J.C.S.]

R

RAIN

suh$_x$- 'rain'. [*IEW* 912 (**seu-*); Wat 58 (**seuə-*); GI 586 (**seu-*); Buck 1.75]. OPrus *suge* 'rain', perhaps Alb *shi* (< **suh$_x$-*; but **gji* is expected < **suh$_x$-*) 'rain', Grk *ὕει* 'it rains', *ὑετός* 'heavy rain', TochAB *su-*, *swās-* (< **suh$_x$(s)-*) 'it rains', TochA *swase* 'rain', TochB *swese* 'rain' (Proto-Toch < **suh$_x$-o-so-?*). Hit *hēu-* 'rain' cannot be derived from this root. Although suggested, there is no reason to connect **s(e)uh$_x$-* 'to rain' with **seu-* 'to press; juice', i.e., 'rain' as a substance pressed out by an agent deity; all forms are formally and semantically distinguished. Distribution supports PIE status.

h$_1$u̯ers- 'rain'. [*IEW* 81 (**u̯er-s-*); Wat 77–78 (**wers-*); GI 587 (**wers-*); Buck 1.75; BK 382 (**ħaw-/*ħəw-*)]. MIr *fras* (< **h$_1$u̯r̥stā*) 'shower', Grk *ἐέρση* ~ *ἕρση* 'dew', (caus.) *οὐρέω* (< **h$_1$u̯orsei̯e-*) 'urinate' < *'make rain', Hit *warsa* (< **h$_1$u̯ors-*) 'rainfall', Av *aibi-varšta-* 'rained upon', OInd *várṣati* 'it rains', *varṣá-* (< **h$_1$u̯e/ors-om*) 'rain'. Greek points to an initial **h$_1$-* (in *οὐρέω* it was regularly lost before *-o-*). The nouns are either recent or point to a root noun **h$_1$u̯e/ors* ~ **h$_1$u̯r̥s-*. The Old Indic verb shows that **h$_1$u̯ers-* is a root, so connection with OInd *vár(i)* 'water' is impossible while connection with *vŕ̥ṣan-* 'male' < 'semen' is impossible as it had no initial laryngeal (cf. Grk *ἔρσην*, *ἄρσην*). Distribution assures PIE status.

h$_a$eghlu- (***ĝh-***?) 'rain'. [*IEW* 8 (**aghl(u)-*); BK 388 (**ħag-/.*ħəg-*)]. OPrus *aglo* 'rain', Grk *ἀχλύς* 'fog, cloud'. The root would appear to be **h$_a$egh-* with the suffix *-lu-* (or *-el-?*). These forms appear to be isolated; connection with Arm *aljamulj-k'* 'darkness' is difficult.

n̥bh(ro/ri)- 'rain'. [*IEW* 316 (**nebh-*); Wat 46 (**ombh-ro-*)]. Lat *imber* (gen. *imbris*) (< **n̥bh-ri-*) 'shower', Arm *amb* (< **n̥bh-?*) 'cloud', Av *aβra-* 'cloud', OInd *abhrá-* 'rain-cloud'. Although sometimes cited, Grk *ὄμβρος* 'rain' does not fit here as **mbh* > Grk *μφ*; nor does Grk *ἀφρός* 'foam' belong because of the difference in meaning. The root probably derives from **nebh-* 'cloud'.

dhreg- 'rain or snow lightly, be bad (of weather)'. [cf. *IEW* 251–252 (**dherə-gh-*)]. Lith *drengti* 'rain lightly, be slushy', *drė̃gnas* 'wet, damp', *ātdrėgis* 'thaw', *dirgti* ~ *dir̃gti* 'become wet, slushy, sleety', Latv *dr̨egns* 'wet, damp', *dr̨ẽgs* 'thaw', TochA *tärkär* 'cloud', TochB *tarkär* 'cloud' (Toch < **dhreg-r-u-*); with new full-grade **dherg-* ~ **dhorg-*: MIr *derg* 'red' (< *'dark'), OE *deorc* 'dark' (> NE *dark*), MHG *terken* 'make dirty, defile', Lith *dérgti* 'be slushy, sleety; soil, make dirty, abuse', *dárga* 'rainy weather, bad weather of any sort', ORus *padoroga* '± stormy weather'. The reference to dark, cloudy, wet weather would seem to be old. Formally and semantically newer are the Germanic and Celtic references to darkness or dirt. At least a widespread dialect term in late PIE.†

mregh- 'rain softly, drizzle'. [*IEW* 738 (**meregh-*)]. Latv *merguôt* 'rain softly', *mārgā* 'soft rain', Czech *mrholiti* 'drizzle', Rus *morosítʹ* 'drizzle', Grk *βρέχω* 'wet, rain, overflow', *βροχή* 'rain'. A word of the central part of the IE world.†

??*bandu- '(rain) drop'. [*IEW* 95 (**band-*); Wat 4 (**band-*)]. OIr *bannae* 'drop' (from British?), MCorn *banne* 'drops', MBret *banne* 'drops', OInd *bindú-* ~ *vindú-* 'drops, globule, spot'. The root should be rejected. The OInd *bindú-* has been supposed to replace **bandu-* after *índu-*, which itself lacks etymology. Rather, the variant *vindú-* suggests a non-IE origin for this word. Moreover, the connection between the Old Indic and the Celtic words is too uncertain as is also the putative Illyrian *Bindus* (river god) and the Lat *fōns Bandusiae*.

The roots **suh$_x$-* and **h$_1$u̯ers-* are undoubtedly the PIE words for 'rain'. Their distribution, with the exception of Greek, is mutually exclusive but both words are widespread across the IE stocks. GI have suggested that **suh$_x$-* was the

earlier form which was replaced because it was subject to taboo avoidance but this is purely speculative. Both words may well have existed in PIE and denoted slightly different concepts. If the semantic distinction in Greek is original, then *suh_x- should have indicated 'heavy rain' and *h_1u̯ers- 'light rain'.

See also CLOUD; DEW; WATER; WET. [R.S.P.B., D.Q.A.†]

RAISE *see* LIFT

RAVEN *see* CROW

RAW

***$h_2$omós ~ *h_2ōmós** 'raw, uncooked'. [*IEW* 777 (**ōmo-s*); Wat 46 (**om-*)]. OIr *om* 'raw', Wels *of* 'raw', Grk *ὠμός* 'raw, uncooked', Arm *hum* 'raw', Khot *hāma-* 'raw', NPers *xām* 'raw', OInd *āmá-* 'raw, uncooked'. The exact PIE form may be in doubt (the short vowel of Celtic and the long vowel elsewhere is not explained) but the geographical distribution of its attestation assures its PIE status.

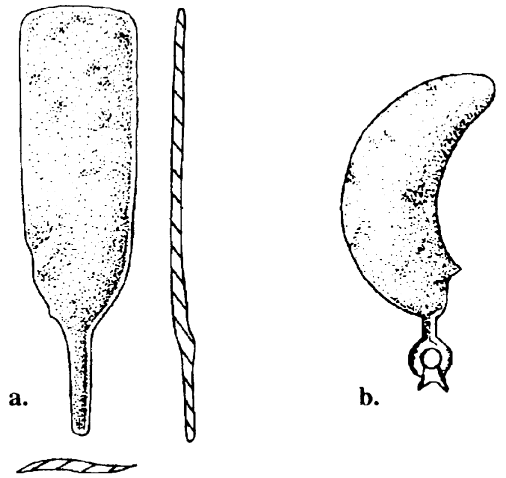
See also COOK. [D.Q.A.]

RAZOR

***ksuróm** 'razor'. [*IEW* 585–586 (**ksu-ro-*); cf. Wat 30 (**kes-*); Buck 9.23; BK 243 (**k[h]as-/*k[h]əs-*)]. Grk *ξυρόν* 'razor', OInd *kṣurá-* 'razor'. A word restricted to the southeast of the IE world. A derivative of **kseu-* 'rub, whet' (cf. Lat *novācula* [< **kneu̯eh$_a$-tleh$_a$-*] 'razor', Grk *ξύω* 'shave, rub', OInd *kṣṇáuti* 'whets, sharpens').

Archaeologically identifiable copper razors appear in Egypt and Mesopotamia between 3000 and 2500 BC and by the end of this period they are also known in Cyprus. Before 2000 BC there are copper razors in Crete and the Cyclades and copper razors are also known in the Harappan culture. The razor is mentioned by Homer in a figurative sense, i.e., 'on a razor's edge', and bronze razors are found in male graves of the Mycenaeans. The razor begins to appear in central Europe only after 2000 BC. A late PIE isogloss between Greek and Indo-Aryan is not easily accommodated by such archaeological evidence since it would be difficult to draw the ancestors of both Greeks and Indo-Aryans into a scheme of migrations that provided them with a common origin only after 2500 BC. On the other hand, copper and bronze knives are known from a much earlier period and these may have provided suitable technological ancestors for the cognate set. For example, in the Yamna and Kemi Oba cultures of the Pontic–Caspian region copper knives with wide rounded blades similar to later razors are known from *c* 3000 BC onwards.

See also HAIR; KNIFE; SHARPEN; TOOL. [D.Q.A., J.P.M.]



Razor a. Copper knife or razor (Yamna culture); b. Late Bronze Age razor (Urnfield culture).

RECONSTRUCTION

The mutual relationship of the various Indo-European languages is established by comparative linguistics or "reconstruction", an analytical technique which looks for systematic relationships in phonology, morphology, syntax, and semantics. A comparison of the three series of words in the accompanying table provides a brief phonological example.

On the basis of these series, one uncovers a systematic relationship where the initial sound might be expressed: OIr *b*, Lat *f*, OE *b*, Alb *b*, Grk *φ* [*ph*], Arm *b*, Av *b*, OInd *bh*. This relationship is so systematic that it is predictable. For example, if one were to seek a cognate in Latin of OInd *bhūrjá-* 'a kind of birch', one would expect to find an initial *f*, which one does find in *farnus* 'ash', or *b* in OE, hence *beorc* 'birch'. The cumbersome relationship (*b* = *f* = *b* = *b* = *ph* = *b* = *b* = *bh*) can be expressed in shorthand by labeling the sequence as PIE **bh* where the asterisk indicates that the form is reconstructed and not attested in any actual (Proto-Indo-European) text. The same process reiterated for the following vowel and second consonant allows us to reconstruct the whole verb root for 'bear' as **bher-*. Similarly we can reconstruct *bhréh$_a$ter-* for 'brother' and **bhrúh$_x$s* for '(eye)brow' (where the **h*'s represent "laryngeal" sounds attested in part in the Anatolian languages and in Albanian).

It is of course necessary that our reconstruction be compatible with what we know about language in general. Our confidence in the exactness of the reconstruction is heightened if it matches a structure commonly found in attested languages while our confidence is decreased if the reconstruction does not match any attested language. We should note that many linguists doubt the phonetic reality of **bh* precisely because the traditional reconstruction of **p*, **b*, and **bh* for Proto-Indo-European with an aspirated voiced stop (*bh*) but no corresponding aspirated voiceless stop (*ph*) is otherwise found or is at least excessively rare. These typological considerations have led various investigators to reconstruct **ph* (glottalized) **p'*, and **bh* (or some other set) rather than **p*, **b*, and **bh*. However, another constraint on reconstruction is the require-

Selected Cognates among the Indo-European Languages

Old Irish	*biru* 'bear'	*brāthair* 'brother'	*brūad* 'brows'
Latin	*ferō* 'bear'	*frāter* 'brother'	
Old English	*bere* 'bear'	*brōþor* 'brother'	*brū* 'brow'
Old Church Slavonic	*berǫ* 'take'	*bratrŭ* 'brother'	
Albanian	*bie* 'bear(s)'		
Greek	*φέρω* 'bear'	*φρήτωρ* 'member of phratry'	*ὀφρῦς* 'eyebrow'
Armenian	*berem* 'bear'	*ełbayr* 'brother'	
Avestan	*baraiti* 'bears	*brātar-* 'brother'	*brvat-* 'eyebrow'
Old Indic	*bhárati* 'bears'	*bhrātar-* 'brother'	*bhrū́-* 'eyebrow'
Tocharian B	*paraṃ* 'bears'	*procer* 'brother'	*pärwāne* 'brows'

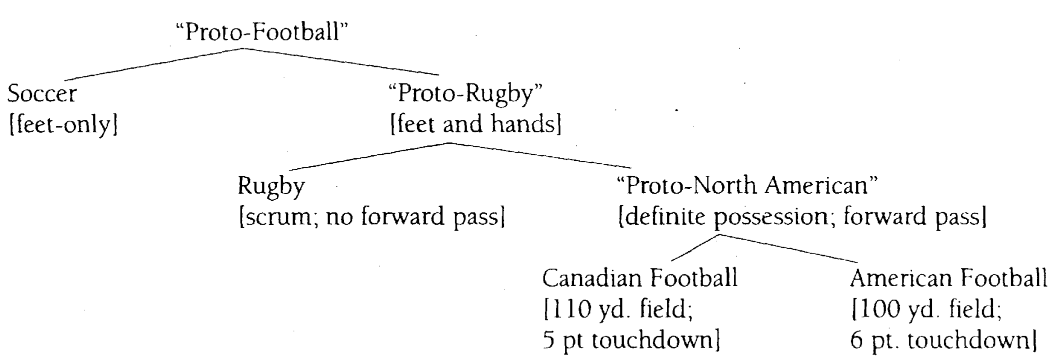
ment that reconstruction allow for the most economical derivation of the attested languages from the reconstructed one. Perhaps inevitably these two constraints do not always point in the same direction. The traditional reconstruction of **p*, **b*, and **bh* allows a very simple derivation of the attested forms: most branches preserve **p* and **b* unchanged, a majority merge **b* and **bh* by losing the aspiration of the latter. Old Indic is assumed to have kept the original situation unchanged (save by the addition of a new *ph*) while Italic and Greek must be assumed to show devoicing and then early (Latin) or late (Greek) change of voiceless aspirates into voiceless continuants. Only Germanic and Armenian show more extensive restructurings. Any alternative reconstruction shows a much more complex "mapping" onto the attested languages.

These considerations aside, systematic correspondences between related languages exist because language is rule-governed behavior and thus change in language is also regular. It was the realization that sound change was, indeed, regular in the middle nineteenth century that made possible the "reconstruction" of Proto-Indo-European (and of course other proto-languages that have left attested descendants). Proto-Indo-European has become its attested descendants by the change of existing rules or the addition of new ones. That it has more than one attested descendant results from the fact that different groups of speakers have changed and added different rules (e.g., in our example, addition or loss of aspiration, addition or loss of voicing, etc.). Linguistic reconstruction provides the tool for tracing the earlier history of language back through time. It is dependant on comparison and the greater number of languages that can be employed in that comparison, the greater the precision of the reconstruction.

A possible analogy to language change lies with the evolution of sport, another rule-governed behavior. Soccer, rugby, football (both American and Canadian) are all the descendants of an English and Irish ball game played largely, though not exclusively with the feet. This "Proto-Football" has become the several independent games currently attested by the addition of new rules. Just as with language, a family tree (indicated in the accompanying diagram) can be drawn up (only certain rule differences are noted).

As with any analogy, this one gets messier the more one pushes it. In particular, the evolution of football differs from the evolution of language in that football has clearly grown more complex in the course of its evolution; "Proto-Football" had fewer rules than any of its descendants. Language, on the other hand, would seem to be much the same as far as complexity goes as far back as we can reconstruct it in any detail (say about 10,000 years).

The Family Tree of Football



Often enough the various innovations that occur to a language are not interconnected and they could have happened in any order. However, when they impinge on one another, we can reconstruct their relative chronology. An example from the history of Slavic will illustrate the possibilities. In the development of Proto-Indo-European into attested Slavic, all original *s*'s were retracted to *x* when preceded by *r*, *u*, *k*, or *i* (the so-called ruki-rule), thus, Pre-Slavic **peiseh$_a$tei* 'to pound' becomes Proto-Slavic **peixātei* and, with further changes, attested OCS *pichati*. Also during the development of Proto-Indo-European into Slavic all PIE palatal stops become sibilants, thus **k̂*, **ĝ*, **ĝh* became *s*, *z*, and *z* respectively. Thus PIE **k̂osneh$_a$* 'pine' becomes Rus *sosná* where, it should be noted, original **k̂* and **s* have become identical. However, PIE **peik̂eh$_a$tei* 'to write' became Proto-Slavic **peisātei* (attested OCS *pisati*) rather than ***peixātei* (attested ***pixati*). Such an outcome can only be explained if the ruki-rule occurred first and was over and done with by the time **k̂* was becoming *s*. On the other hand, one should note that both original *-s-* and *-s-* from **-k̂-* combine with **-i-* to give *-š-*, e.g., OCS *slušo* 'I hear' from PIE **k̂lousi̯ōm* and OCS *prošo* 'I ask' from PIE **prok̂i̯ōm*. The simplest explanation for this phenomenon is that this latter rule came after both the ruki-rule and the change of palatal stops to sibilants.

The underlying presupposition of linguistic reconstruction is the regularity of change. However, there are other forces at work in language change. Particularly we need to take into account the actions of analogy whereby various closely related words may influence one another to preserve, say, morphological regularity at the expense of phonological regularity. As an example we might cite the history of OE *sadol* 'saddle' and *cradol* 'cradle' whose regular plurals were *sadolas* and *cradolas* respectively (all of these words stressed on the first syllable). Sometime in Old English short vowels in open syllables (i.e., when followed by a single consonant and then a vowel) were lengthened when those syllables were both stressed and the next-to-the-last in the word. Thus we had something like *sādol* and *crādol*, but *sadolas* and *cradolas*. Further regular phonological changes would have resulted in NE *cradle*, pl. **craddles*, and **sadle*, pl. *saddles*. What we find, then, in the history of English the plural of *cradle* has been analogically remade on the basis of the singular (a very common analogical change) while in the case of *saddle* it is the singular that was remade on the basis of the plural (a distinctly rare analogical change).

Another source of historical irregularity is borrowing among different dialects of the same language. OE *hāl* 'whole, well' regularly becomes NE *whole* (the *w-* is an unetymological spelling) in the south of England, the dialects which provide the basis for modern standard English. In the north of England and in Scotland OE *hāl* becomes with equal regularity *hale*. Because standard English has also accepted *hale* into its vocabulary we now have the "regular" *whole* and the "irregular" *hale*. One of the recurring problems in historical reconstruction of Proto-Indo-European, or any other language, is detecting and accounting for this kind of "internal" loanword.

This problem is by no means confined to reconstructing linguistic history. Our reconstruction of the "football family-tree" above shows a nonlinguistic instance of this same kind of borrowing between related branches. Though the presence of the forward pass is reconstructed for "Proto-North-American", in actual fact the innovative forward pass first appeared in American football and was only later adopted (i.e., borrowed) by Canadian football. Reconstructing the forward pass to "Proto-North-American" is a natural consequence of the theory and practice of reconstruction but does not reflect historical reality.

Linguistic reconstruction leads us to a linguistic system that is not firmly tied to anything in time or space. It is an abstraction; it simply expresses a form for which no further linguistic laws need be invoked to account for the cognates attested in the various Indo-European languages. The reconstructed language differs from a real (i.e., attested) language in significant ways, particularly in that it does not show the social and geographical variability that is the hallmark of any attested language. Like all languages, a reconstructed one such as Proto-Indo-European was constantly changing. However, there are no independent means available to the linguist to suggest that the reconstructed form **bher-* 'carry', for example, might be assigned to 2500 BC, 4000 BC, or 10,000 BC. Nor can we determine that **bher-* was contemporaneous with **bhréh$_a$ter-* 'brother' or **bhrúh$_x$s* 'brow'.

Still, for all its limitations, linguistic reconstruction is a powerful tool for understanding the history of related languages. Practiced with increasing sophistication over the past hundred years or so on the Indo-European languages, it has provided a very detailed picture, admittedly not always quite in focus, of Proto-Indo-European phonology, morphology, syntax, and, most importantly in the context of this *Encyclopedia*, of its vocabulary.

See also INDO-EUROPEAN LANGUAGES; PROTO-INDO-EUROPEAN; SCHLEICHER'S TALE; SUBGROUPING; TIME-DEPTH. [D.Q.A.]

Further Readings

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RED

****h$_1$reudh-*** '(bright) red'. [*IEW* 872–873 (**reudh-*); Wat 55 (**reudh-*); GI 616 (**r(e)ud^h-*); Buck 15.66]. From

*$h_1$roudhós we have OIr *rúad* 'red', Wels *rhudd* 'red', Lat *rūfus* 'red', Umb *rofu* 'red', ON *rauðr* 'red', OE *rēad* 'red' (> NE *red*), OHG *rōt* 'red', Goth *rauþs* 'red', Lith *raũdas* 'red', Latv *raũds* 'red', OCS *ruda* 'metal' (< *'copper'), Rus *rúdyj* ~ *rudój* 'blood-red, red-haired', Av *raoidita-* 'red', OInd *lohá-* 'reddish', *róhita-* 'red'; from *$h_1$rudhrós we have Lat *ruber* 'red, ruddy', Grk *ἐρυθρός* 'red', MPers *Luhrāsp* (< *luhra-asp < *$h_1$rudhro-$h_1$ek̂uo-) 'red horse', OInd *rudhirá-* 'red', TochA *rtär* 'red', TochB *ratre* 'red'. The most widely attested color word in Indo-European, 'red' is securely reconstructed. An *o*-grade adjective, attested in Italic, Celtic, Germanic, Baltic, Slavic and Indic is a non-productive form in the northwest and its preservation in Indic points to its status as the earliest form, with later innovations; the zero-grade with *r*-suffix is found widely dispersed in Italic, Slavic, Greek and Tocharian. The Indo-Iranian suffix *-ita-* is common among color adjectives and may be an innovation in that branch.

$h_1$elu- 'dull red'. [*IEW* 302 (*el-)]. OHG *elo* 'yellow', Av *aurusa-* 'white', OInd *aruṣá-* 'reddish, golden', *aruṇá-* 'reddish, golden'. A second term for 'dull red' is preserved in only Germanic and Indo-Iranian, but the wide geographical separation indicates Indo-European status.

k̂óunos 'red'. [*IEW* 594 (*k̂ou-no-s)]. MIr *cúanna* 'lovely', Wels *cun* 'lovely', Rus *sunica* 'wild strawberry', SC *sȕnica* 'raspberry', OInd *śóṇa-* 'red'. It is not at all certain that the Celtic forms belong here, being very divergent semantically. The Slavic and Old Indic give evidence for a word of the center and east of the IE world.

See also COLOR. [M.E.H., D.Q.A.]

REED

$h_a$er- 'reed'. [*IEW* 68 (*aro-m)]. Lat *harundō* (with secondary *h-*) 'reed', Grk *ἄρον* 'arum', Khot *arā-* 'reed, rush'. Distribution indicates PIE status for this word.

nedós 'reed, rush'. [*IEW* 759 (*nedo-)]. Lith *néndrė* 'reed', Latv *našļi* (< *nadsli-?) 'reed', Arm *net* 'arrow', Luv *nātatta-* 'reed', NPers *nai* 'reed', OInd *nadá-* '± reed'. Old in IE. The Armenian meaning reflects the widespread use of certain kinds of reeds for the making of arrowshafts.

trus- 'reed, rush'. [*IEW* 1097 (*trus-)]. Lith *tr(i)ušis* 'reed, horse-tail', *traũšis* 'horse-tail (*Equisetum arvense*)', Latv *trusis* 'reed, rush, horse-tail, juniper', OCS *trŭstĭ* 'reed', Rus *trostĭ* 'reed, cane', SC *tȑs* (< *truso-) 'reed', Grk *θρύον* (< earlier *truho- < *truso-) 'reed, rush'. At least a word of the center of the IE world.

i̯oinis 'reed, rush'. [*IEW* 513 (*i̯oi-ni-)]. MIr *aín* (< *i̯oin) 'rush', Lat *iuncus* (< *i̯oiniko-) 'rush', *iūniperus* 'juniper', ON *einir* (< *i̯oinii̯o-) 'juniper'. The phonological connections suggested here are impeccable but the semantic connection between 'reed' on the one hand and 'juniper' on the other is not at all obvious, though precisely that semantic equation is made in Latv *trusis* 'reed, juniper' in the previous entry.

?*g(h)reu̯om 'reed, rush'. Av *grava-* 'reed', TochA *kru* 'reed', TochB (pl.) *karwa* 'reeds'. Only attested in two neighboring stocks. If this represents a case of borrowing rather than common inheritance, the borrowing must be very early.

?*don- 'reed'. [cf. *IEW* 187]. Latv *duonis* 'reed', Grk *δόναξ* 'reed'. The apparent, partial, agreement between Baltic and Greek is tempting. Perhaps a late dialect word of the center of the IE world.

See also JUNIPER; PLANTS. [D.Q.A.]

REINS

$h_2$ensii̯o/eh$_a$- 'reins'. [*IEW* 48 (*ansi-)]. OIr (pl.) *éis(s)i* ~ *éis(s)e* 'reins', Myc (pl.) *a-ni-ja* 'reins', *a-ni-jo-ko* 'charioteer' (lit. 'reins-holder'), Grk (pl.) *ἡνία* 'reins' (Doric *ἁνία*), *ἡνίοχος* 'charioteer; one who governs', *ἡνίον* 'bit'. OInd *nāsyam* 'nose-cord (of a draft-ox, etc.)' may belong here if the form of the word has been influenced by *$h_x$nás- 'nose'. Almost certainly related to *$h_2$enseh$_a$- 'handle' and probably to the family of Hit *hassu-* 'king' (< *'controller'). In any case, the exact equivalence in form and meaning of the Greek and Irish words is strong evidence that this word, with this meaning, is of PIE antiquity.

See also HANDLE; HORSE; KING; TOOL; WAGON. [D.Q.A.]

Further Reading

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RELEASE

selĝ- 'release, send out'. [*IEW* 900–901 (*selĝ-); GI 602 (*selk̂'-)]. OIr *selg* 'hunt' (< *'releasing of dogs'), *sleg* (< *sl̥ĝeh$_a$-) 'spear', OWels *in-helcha* 'hunting', OE *be-sylcan* 'deprive of strength', MHG *selken* 'drip', Av *hərəzaiti* 'releases, sends out', OInd *sr̥játi* 'releases, throws, pours'. Though not widely attested the geographical pattern of those attestations would seem to assure PIE status for this word.

TerK- 'release, allow'. [*VW* 503]. Hit *tarna-* (< *tarkna-) 'let, release, permit', TochAB *tärk-* (pres. *tärknā-*) 'let go, allow; emit; stop, desist'. Though attested only in Hittite and Tocharian, the pattern of those attestations assures PIE status.

leuh$_x$- 'release, cut off'. [*IEW* 681–682 (*leu-); Wat 36-37 (*leu-); Buck 11.34]. Lat *luō* 'loose, free, pay off', ON *lýja* 'beat, wear out', Goth *lun* 'ransom', Lith *liáutis* 'cease, stop, discontinue', Grk *λύω* 'release, free', *λύτρον* 'ransom', OInd *lunā́ti* 'cuts (off)', *lavitram* 'sickle', TochAB *lu-* 'send'. From *leus- we have ON *losna* 'get free', *lauss* 'loose' (borrowed > NE *loose*), OE *for-lēosan* 'lose', *los* 'loss', *lēas* 'free from, loose, wanting', OHG *far-liosan* 'lose', *lōs* 'free, untied', Goth *fra-liusan* 'lose', *fra-lusnan* 'be lost, perish', *laus* 'free, empty', Alb *lesh* 'wool, hair' (< *'that which is cut off'). Widespread and old in IE. The basic meaning of this root is 'untie' which survives in Greek where the verbal adjective *λυτός* means 'which can be untied' and corresponds to Lat *(so)lūtus* < *solvō* 'untie' (< *se-luō). From the concept of 'untying' we also get that of 'release' (buying back for a ransom, e.g., Grk *λυτρόομαι* 'ransoms').

[D.Q.A.]

REMAIN

***men-** 'remain, stay' (pres. ***mimne/o-**). [*IEW* 729 (**men-*); Wat 41 (**men-*); BK 520 (**man-/*mən-*)]. OIr *ainmne* 'duty', Wels *amynedd* 'duty' (Celtic < **an-menịeh*$_a$*-*), Lat *maneō* 'remain', Grk *μένω* 'stand fast, remain; await', *μίμνω* 'stay, tarry; await', Arm *mnam* 'remain, expect', Hit *mimma-* (< **mimne/o-*) 'refuse', OInd *man-* 'delay, stand still', TochAB *mäsk-* (< **mn̥-sk̑e/o-*) 'be(come)'. Widespread and old in IE. Probably distinct from **men-* 'think' though there have certainly been secondary associations such as we find in Arm *mnam* 'remain' and 'expect'.

See also LEAVE. [D.Q.A.]

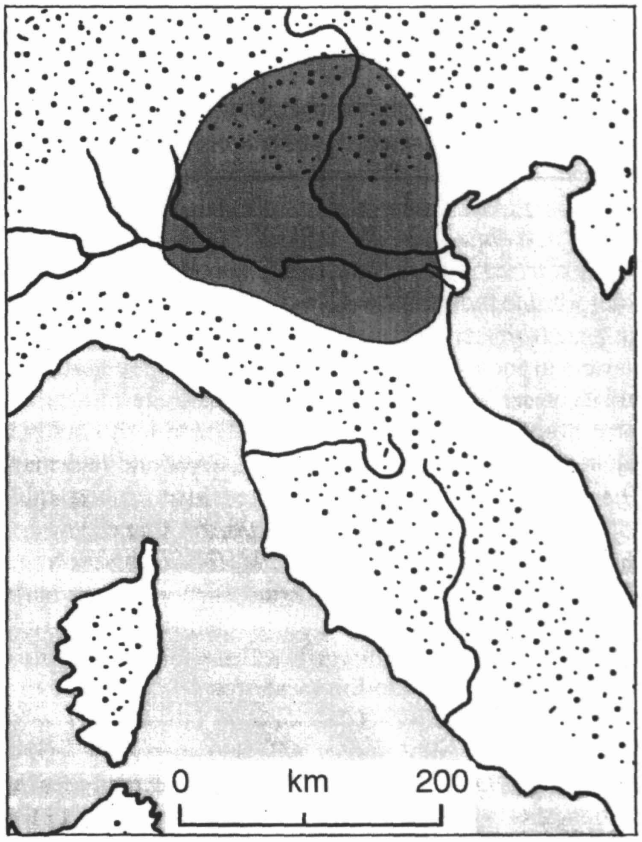
REMAINS

?*(h*$_1$*eti)loik*^{w}*os 'remains'. [*IEW* 669–670 (**loik*^{u}*o-s*); Wat 36 (**leik*^{w}*-*)]. OCS *otlěkŭ* 'remains', Grk *λοιπός* 'remains', OInd *atiréka-* 'remains'. Cf. **lik*^{w}*tós* in Lat *relictus* 'remains', Lith *lìktas* 'remains', OInd *riktá-* 'empty, free'. All from **leik*^{w}*-* 'leave'; it is possible that they are all independent creations in the various stocks that have them. Perhaps more significant is the agreement of Germanic, e.g., Goth *twa-lib*, and Baltic (Lith) *dvý-lika*, both 'twelve' from *'two-left (over)'.

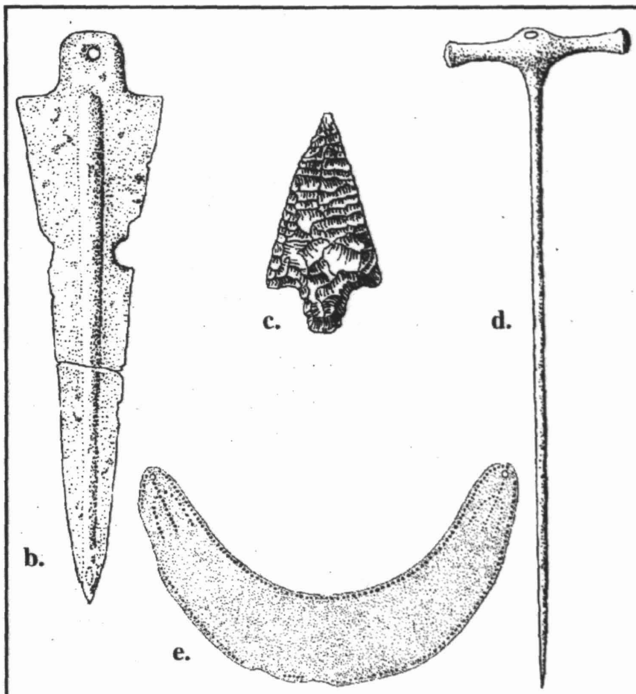
See also FLOTSAM; NUMERALS (TEEN FORMATION). [D.Q.A.]

REMEDELLO CULTURE

Copper Age/Early Bronze Age (*c* 3300-2500 BC) culture of northern Italy. The culture is primarily known from its cemeteries in the Po Valley such as Remedello where over a hundred graves were excavated of an estimated three hundred. Burials were in the flexed position on the left side (with faces to the north-east) or, occasionally, extended position, although there is also some evidence of the redepositing of remains after the body had been exposed. The burials were made in simple pit graves which were in some instances aligned in rows. They were rich in flint arrowheads (up to eleven in a single grave), daggers, and stone axes. Metal objects included copper axes, daggers and halberds. The culture also yielded two silver objects (i.e., a pendant and pin), some of the earliest silver in western Europe. The pottery found was associated with female burials. There are few settlements known, some hilltop enclosures. The culture exhibits many similarities, at least in metallurgical types, with cultures north of the Alps and east in the Aegean and Anatolia, but these derive from so many different sources that it is difficult to postulate a single point of origin. In the "Kurgan solution" to the IE homeland problem, the presence of weapons in the graves and hilltop settlement are all regarded as traits of warlike IE communities. Claims of horse remains from the Remedello culture have also been made although their context is not secure. Even without the specifics of the Kurgan theory the evidence for the Remedello culture's contacts outside of the region has often been seen to reflect a migration of a foreign population into northern Italy. Others, however, have chosen to see the prestige metal artifacts as evidence of exchange relations or the spread of a cult package as the territory of the Remedello



Remedello a. Distribution of the Remedello culture.



Remedello b. Bronze dagger; c. Flint arrowhead; d. Silver hammer-head pin; e. Silver pendant.

culture is largely congruent with the distribution of Beakers in northern Italy.

See also BEAKER CULTURE; GAUDO CULTURE; ITALIC LANGUAGES; RINALDONE CULTURE. [J.P.M.]

REMEMBER

***(s)mer-** 'remember, be concerned about'. [*IEW* 969 (**(s)mer-*); Wat 62 (**(s)mer-*)]. OE *murnan* 'worry, mourn' (> NE *mourn*), OHG *mornēn* 'worry about, mourn', Goth *maúrnan* 'worry about', Lith *merěti* 'worry about', Grk *μέριμνα* 'thought, care, anxiety', *μάρτυς* 'witness' (< *'one who remembers'), Av *maraiti* 'observes', OInd *smárati* 'remembers, longs for'; with reduplication of one sort or another: OE *mimorian* 'remember', Lat *memoria* 'remembrance', Grk *μερμαίρω* 'worry about', Arm *mormok'* 'care'. Widespread and old in IE.

See also FORGET. [D.Q.A.]

RESIDENCE

Before modern western and urban societies, with few exceptions, husbands and wives are generally found to live with one another in a nuclear family in which there was a small range of options concerning the rules of postmarital residence. Over two-thirds of the ethnographic examples surveyed practice virilocal (or patrilocal) residence where a woman marries out of her own family and goes to live with her husband's family. This is regarded as the general residence pattern for PIE society on both historical evidence, i.e., this is the pattern of residence that one encounters almost invariably in the ethnographic record of the IE stocks from their first appearance in the historical record, and it is argued linguistically, i.e., PIE **h_2u̯edh(h_x)-* 'to lead (away in marriage)' is the common term for the marriage of a male in PIE which indicates that he is leading his wife away from her family. The combination of patrilineal descent with patrilocality will result in the close co-operative association of males (father, brothers, sons) in a communal (joint, extended) family.

The second most frequently found resident pattern is matrilocality which occurs in some 13% of the ethnographic record examined. It is not a creditable pattern for PIE not only because of the lack of any historical or lexical evidence in its support but also because there is a total non-correlation between patrilineality, which is also ascribed to PIE, and the matrilocal residence system. Other options are bilocality, where couples may live with either parent (frequent enough now where there are major housing shortages in the larger towns of the former Soviet Union); neolocality, the establishment of a new residence for the couple away from either family; or avunculocality where residence is taken up with the mother's brother (with again an almost total correlation with matrilineality). Although the avunculate has occasionally been proposed as a PIE institution, there is no evidence for it since one of its main features, the juridical and rather stern relationship between ego and mother's brother, is contradicted by all of our data concerning the relationship between ego and mother's brother in early IE societies. Moreover, as the avunculate is an institution of a matrilineal society (where the brother of the woman is expected to oversee the inculturation of the son rather than the biological father who is on a different descent line), this further contradicts the evidence of IE practices. Finally, avunculocality is so seldom encountered in the ethnographic record that its ascription to PIE is unlikely for this reason alone.

The residential system reconstructed for PIE society has occasionally been employed in discussions of the IE homeland and dispersals, particularly with reference to Neolithic societies of eastern Europe. Marija Gimbutas long argued that the nature of Neolithic societies in Anatolia, southeastern Europe (and further in central or Danubian Europe) was "matrifocal", i.e., it combined matrilineal descent, matrilocality and an ideological focus on the female aspects of reproduction. All of these features, she argued, were in stark contrast to the Indo-Europeans who were patrilineal and patrilocal. For this reason, the Neolithic societies of most of Europe were excluded as potential representatives of PIE society which she sought in the steppe lands of the Ukraine and south Russia. She also outlined the dispersal of these IE societies across Europe at the end of the Neolithic in her "Kurgan solution" to the homeland problem.

There is, in fact, so far no valid way that a kinship system or residential patterns can be read "on the ground", i.e., from the purely archaeological record. Attempts have been made to correlate ceramic design elements with matrilocality in prehistoric pueblos of the American Southwest but these have been subject to criticism and such techniques have not been employed in Eurasia on sites relevant to the early Indo-Europeans. Nevertheless, Gimbutas' model has received some support from other archaeologists such as Ian Hodder who have suggested that the houses of Neolithic southeast Europe are almost exclusively associated with what are presumed to be either female activities or female items, e.g., food preparation, cooking, textile preparation, figurines (the overwhelming majority of which are female), while male associated activities are not found within houses but rather outside, primarily receiving ideological representation in cemeteries, e.g., metal tools, axes. Hence Hodder, employing the structuralist framework of Levi-Strauss, assigned the house and its contents to the "female" and "cultured" (which he designated "domus") and the outside world (here "agrios") to the male.

From the perspective of descent reckoning the subsistence basis may also suggest something of the residential and descent patterns. In southeast Europe the primary Neolithic subsistence would appear to be based on hoe agriculture of domestic cereals supplemented by stock-raising and some hunting. Of the various subsistence patterns, this would be the closest to that obtaining for the majority of matrilineal and matrilocal societies. Conversely, matrilineal and matrilocal societies are rarely found associated with plow agriculture or pastoralism. The direct correlation between the type of mixed agriculture

practiced in southeast Europe and Anatolia and matrilocal residence and matrilineal inheritance, however, is simply not possible since there are far more patrilineal societies than matrilineal in the ethnographic record and the majority of horticulturists are actually patrilineal (*c* 41%) or bilateral (32%) rather than matrilineal (21%). It is far easier to conclude that both plow agriculture and pastoralism (economies we assign to PIE) are likely to be patrilineal or bilateral than it is to presume that the early farmers of Anatolia and southeast Europe must have been matrilocal and matrilineal although this is entirely possible. Finally, the plow spread through Europe by the fourth millennium BC and a shift to plow agriculture, which presumably drew the male deeper into the cereal-based economy, could be expected to stimulate an indigenous development of patri-based societies irrespective of their earlier forms.

See also **Kinship**; **Marriage**. [J.P.M.]

Further Readings

Gimbutas, M. (1991) *The Civilization of the Goddess*. San Francisco, Harper.

Hodder, I. (1990) *The Domestication of Europe*. Oxford, Blackwell.

RESIN *see* SAP

REST *see* QUIET

RESTITUTION *see* COMPENSATION

RETURN HOME

nes- 'return home, return to a favorable state or place' (pres. ***nésetor*** ~ ***ninstór***). [*IEW* 766–767 (**nes-*); Wat 44 (**nes-*); GI 664 (**nes-*); Buck 11.25]. OE *ge-nesan* 'be saved', *nerian* 'heal, save', OHG *gi-nesan* 'be saved', *nerren* 'heal, save', Goth *ga-nisan* 'be saved', *nasjan* 'rescue', Grk ***νέομαι*** 'return home', ***νίσ(σ)ομαι*** (< **ni-ns-omai*) 'return home', Av *asta-* (< **n̥s-to-*) 'house, dwelling', OInd *násate* 'unite with, approach', *nímsate* 'they touch with the body, kiss', *ásta-* 'house, dwelling', perhaps also in TochA *nasu* 'friend'. (TochA *nas-* 'be' and TochB *nes-* 'be', sometimes put here, belong rather with **h₁es-* 'be'.) The geographical spread and the exact (double) morphological agreement of Greek and Old Indic assure the PIE status of this word.

[D.Q.A.]

REVILE *see* INSULT

REWARD

lau- 'benefit, prize'. [*IEW* 655 (**lāu-*); Wat 35 (**lau-*); GI 644 (**lau-*)]. OIr *lōg* ~ *lūag* 'reward, prize', *fo-lud* 'substance, essence; property, wealth', Wels *golud* 'riches' (the latter two < **h₄upo-lauto-*), Lat *lucrum* (< **lutlom*) 'gain, benefit' (slightly pejorative), ON *laun* 'reward, recompense', OE *lēan* 'reward, recompense', OHG *lōn* 'reward, recompense', Goth *laun* 'reward, credit' (Gmc < **launom*). The original sense may have been wealth or benefit that was obtained through some special action rather than regular work, a sense still preserved in compounds such as Goth *sigis-laun* 'the prize of victory' which expresses one's winnings in a horse race. In Greek we find an enlarged **lau-s-* in *ἀπολαύω* (< **-lausō*) 'enjoy the benefit of' and perhaps the same is to be seen in Goth *lausjan* 'collect (money)' (if this is a different verb than *lausjan* 'free, rescue'). A word of the west and center of the IE world. Not connected with this word are Grk ***λεία*** 'booty' or OInd *lót(r)am* 'booty' (only lexically attested and then a Sanskritization of MInd *lotta-* [whence ultimately by borrowing comes NE *loot*] from *lóptra-* 'booty').

h₂elgʷho/eha- 'payment, prize'. [*IEW* 32–33 (**algᵘh-*); Wat 2 (**algʷh-*); GI 818–819 (**olgʰᵒ-/*l̥gʰᵒ-*); Buck 11.78]. OPrus *ālgas* 'wage', Lith *algà* 'payment, salary, soldier's pay', Grk ***ἀλφή*** 'earnings', ***ἀλφάνω*** 'get a price, make a profit', Hit *halkuessar* 'produce, supplies (for cultic use)', Av *arəǰah-* 'value, price', *arəǰaiti* 'is valued', OInd *arghá-* 'value, price', *árhant-* 'dignity'. In Buddhist terminology OInd *árhant-* 'dignity' became the technical word for the achievement of the highest rank in the Buddhist system of values. Distribution indicates PIE status. The Indo-Iranian form was borrowed into the Uralic languages, e.g., Finnish *arvo* 'price', Hungarian *ár* 'price'. In Benveniste's study of the semantics of this word, the Greek cognate in Homer regularly indicates obtaining the price desired for the sale of a person such as a prisoner of war or a slave while the OInd *arh-* refers to the value placed on a human being, never an object. This suggests that the term may originally have been associated with the transfer of human beings.

misdhós 'reward, prize'. [*IEW* 746 (**mizdhó-*); Wat 43 (**mizdho-*); Buck 11.78]. OE *mēd* ~ *meord* 'reward, pay', OHG *mēta* 'wages', Goth *mizdō* 'recompense, reward', OCS *mĭzda* 'reward, wages', Grk ***μισθός*** 'reward, wages', Av *mīžda-* 'reward, gift', OInd *mīḍhám* 'competition, contest, prize'. Distribution indicates PIE status.

See also **Army**; **Booty**; **Fear**; **Wealth**. [D.Q.A.]

Further Reading

Benveniste, E. (1973) *Indo-European Language and Society*, Coral Gables, Florida, University of Miami.

RIB *see* BREAST; ROOF

RICH

h₁su-dhh₁-énos 'rich, well-off' (< *'well-placed'). Grk ***εὐθενέω*** ~ ***εὐθηνέω*** 'thrive, flourish', ***εὐθένεια*** 'prosperity, welfare, supply', OInd *su-dhána-* 'rich', *ni-dhána-* 'poor'. A southeastern innovation of late PIE.

See also **Wealth**. [D.Q.A.]

Further Readings

Pârvalescu, A. (1988) Skt. *sudhána* 'rich' and Grk *euthēneia* 'prosperity' and their cognates. *IF* 93, 46–51.

Watkins, C. (1979) NAM.RA GUD UNU in Hittite: Indo-European poetic language and the folk taxonomy of wealth, in *Hethitisch*

und Indogermanisch, eds. E. Neu and W. Meid, Innsbruck, Institut für Sprachwissenschaft der Universität Innsbruck, 269–288.

RIDE

?*reidh- 'ride'. [*IEW* 861 (**reidh-*); Wat 54 (**reidh-*); Buck 10.66]. MIr *rīadaigid* 'rides', Wels *rhwyddhau* 'hurry', ON *rīða* 'ride', OE *rīdan* 'ride' (> NE *ride*), OHG *rītan* 'ride'. A dialect word limited to the far west of the IE world.

See also CARRY; GO; HORSE; WAGON. [D.Q.A.]

RIGHT

dék̂sinos ~ *dek̂siu̯ós ~ *dek̂siterós 'right'. [*IEW* 190 (**dek̂s-*); Wat 11 (**deks-*); GI 686 (**t'ek̂ʰ-s-*); Buck 12.41; BK 131 (**t'ak[ʰ]-/*t'ək[ʰ]-*)]. OIr *dess* 'right, south', Wels *dehau* 'right, south', Lat *dexter* (<**dek̂siteros*) 'right', OHG *zeso* 'right', *zes(a)wa* 'right hand', Goth *taíhswa* 'right', Lith *dẽšinas* (< **dek̂sinos*) 'right', *dešinė̃* 'right hand', OCS *desnŭ* (< **dek̂sinos*) 'right', Alb *djathtë* (< **dek̂sio-* + later *-të*) 'right', Myc *de-ki-si-wo* (< **dek̂siu̯os*) 'right', Grk *δεξιός* (< **δεξιϝός*) 'right', *δεξιτερός* 'right', Av *dašina-* 'right', OInd *dákṣiṇa-* 'right, south' (< Indo-Iran **dek̂sinos*). Wide distribution indicates PIE status.

The term is clearly associated not only with 'right hand' but also 'south', indicating that the early Indo-Europeans literally "oriented" themselves, i.e., in establishing the cardinal directions, they stood facing east with their right hand to the south and their unpropitious left to the north.

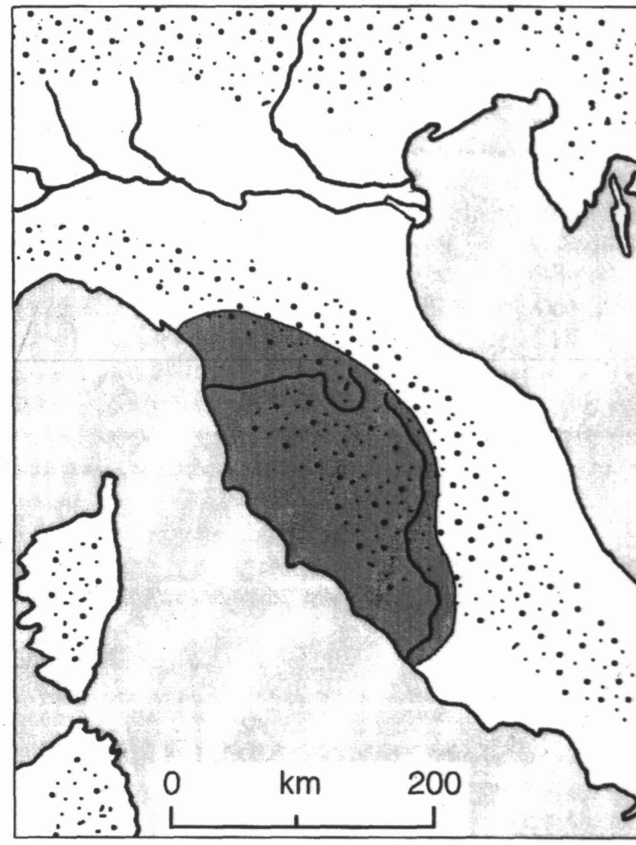
h₃regtos 'right'. [*IEW* 855–856 (**reĝ-*); Wat 54 (**reg-*); GI 654 (**rek̂'-*); BK 591 (**rak'-/*rək'-*)]. OIr *recht* 'law, authority', Lat *rēctus* (adj.) 'right', ON *rēttr* 'right, law, legal claim', *rētti* 'direction', *rētta* 'rule, land', OE *riht* 'right' (> NE *right*), OHG *reht* 'right, justice', Goth *raíhts* 'right', *raíhtis* (adv.) 'indeed, rightly', Grk *ὀρεκτός* 'stretched out', Av *rašta-* 'right, straight.' From **h₃reĝ-* 'stretch out, straighten' with derivatives meaning 'to direct in a straight line, just right'. The distribution of both the nominal and adjectival forms suggest IE status.

As with words for 'left', the term for 'right' has a wide sphere of semantic connotations that derive from the PIE period and have been remodeled and renewed through the various IE stocks. In general, the oppositions established on both linguistic and behavioral grounds indicates that the right (hand) is to be associated with males, patrilineal descent reckoning, aerial (as opposed to chthonic) rituals, orientation (south or east), healthiness, strength, correctness, and order. Thus, in addition to the examples provided above, these notions continue in the later IE languages, e.g., OE *swīþ* 'strong, mighty' but comparative *swīðre* 'right (hand)'.

See also COSMOLOGY; DIRECTION; EXTEND; HONOR; KING; LEFT; TAKE. [A.D.V.]

Further Reading

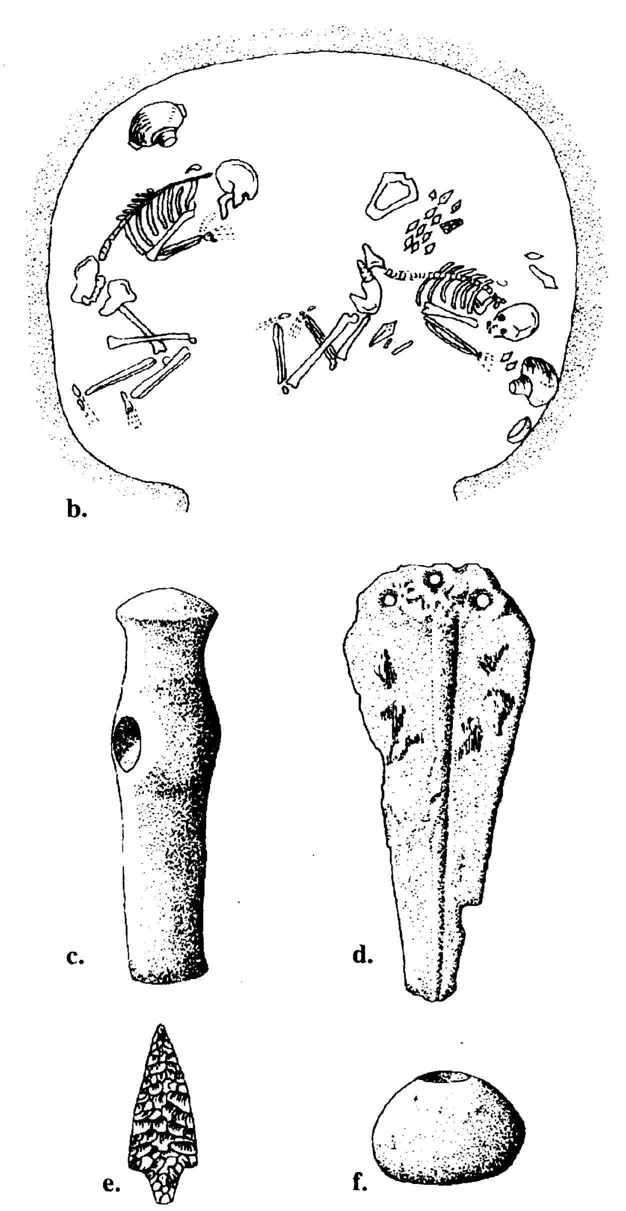
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Rinaldone a. Distribution of the Rinaldone culture.

RINALDONE CULTURE

The major Copper Age/early Bronze Age (*c* 3500–2500 BC) culture of Tuscany was the Rinaldone culture. It is known primarily from its small cemeteries which number about forty sites. These may comprise simple pit graves, cave burial or interment in a rock-cut tomb. The eponymous site of Rinaldone yielded about a dozen burials in rock-cut tombs, interred on their left sides with faces to the east. Grave goods included flint blades, arrowheads, stone battle-axes, and occasionally pottery. Metal artifacts were relatively abundant in the Rinaldone burials and comprised triangular daggers, awls and axes. The Rinaldone culture has been frequently regarded as intrusive in Italian archaeology and in the "Kurgan model" of IE expansions, the Rinaldone culture has been associated with the coming of the Indo-Europeans to Italy. Horse remains (i.e., a pit at Le Cerquete-Fianello revealed the beheaded remains of a horse associated with the burial of dogs), stone and copper weapons, and a possible suttee burial have all been found. The evidence for suttee is suspected for one of the twenty-five graves at the site of Porte San Pietro where a man was found accompanied by a copper dagger, copper ax, stone battle-ax, flint points and an antler implement. Nearby was the burial of a woman with a vase, bead-necklace, and copper pin. Such evidence has been elicited to support the



Rinaldone b. "Tomb of the Widow" which has been interpreted by some as evidence for sutee, the execution of the wife on the death of her husband; c. Stone "battle-ax"; d. Bronze dagger; e. Flint arrowhead; f. Stone macehead.

notion of warlike, patriarchal IE-speaking invaders. A marked increase in brachycephalic (broad-headed) skulls has also been noted. Even if the culture were intrusive (and recent arguments have emphasized local developments rather than migrations), its linguistic identification still remains problematic in that the Rinaldone culture occupied the same territory historically ascribed to the Etruscans who are regarded by most linguists as a decidedly non-IE-speaking population.

See also Gaudo Culture; Italic Languages; Remedello Culture. [J.P.M.]

RING

ānos (= ***h_aeh_aenos***?) 'circle, ring'. [*IEW* 47 (**āno-*); Wat 3 (**āno-*); Buck 6.37]. OIr *áinne* 'ring, circuit', Lat *ānus* 'ring; anus', *ānulus* 'finger ring', Arm *anur* 'necklace, ring'. Not everyone would agree that the Armenian word belongs here but the meaning is certainly what we expect of a cognate. A probable word of the west and center of the IE world.

Archaeologically, rings are ancient in the prehistoric record and may have been made out of organic material such as bone or metal such as copper, bronze, gold or silver, the latter by the third millennium BC and in many cases much earlier. The metal rings found on Copper and early Bronze Age sites have been variously identified as finger rings, earrings and hair rings.

[D.Q.A.]

RIVER

$h_2$eb(h)- 'river'. [*IEW* 1 (**ab-*); GI 578 (**Hap^h-*); Buck 1.36]. OIr *ab* (gen.) *abae* (< **abā*) 'river', Wels *afon* 'river', OBrit *Αβος* name of Humber in Ptolemy's *Geography*, Lat *amnis* 'river', Hit *hapa-* 'river', Palaic *hāpnas* 'river', Luv *hāpa/i-* 'river'. That the Anatolian words belong here cannot be regarded as certain. Germanic river names in *-apa* (e.g., OHG *-affa*) are too uncertain as evidence for PIE and may rather be non-IE; similarly Latv *Abava* (river name). Nor does this set include OInd *áp-* 'water' which is formally and semantically different. The word may be little more than an Italic-Celtic isogloss with some possibility of greater antiquity.

deh_anu- 'river'. [*IEW* 175 (**dānu-*); BK 83 (**dan-/ *dən-*)]. Wels *Donwy* (< **Dāne/ouios*) (river name), Celt (in Lat) *Dānuvius* 'Danube', Av *dānu-* 'river', Oss *don* 'river' (whence the name of the river Don and element in Dnieper, Dniester, Donets), OInd *dā́nu* 'drops' or 'gift'. Another possibility is that we have **dhōnu-* (with difficult lengthened grade) 'river' represented by the Celtic and Iranian words and that this is a derivative of **dhen-* 'flow' otherwise seen in OPers *danuvatiy* 'flows', OInd *dhánvati* 'moves fast, rushes', TochAB *tsän-* 'flow' with other derivatives in Lat *fōns* 'spring' and TochB *tseñe* 'stream'. The latter proposal's distribution of forms more strongly suggests PIE status.

dreuentih$_2$ (river name) [*IEW* 205 (**druuent-*)]. Gaul *Druentia* (river name), WRus *Drywiaty* (lake name), OInd *Dravantī* (river name). From **dreu-* 'run' suggesting the 'running', apparently an epithet applied to river names.

sreu-men- ~ ***srou-mos*** 'flowing, streaming (in river names)'. [*IEW* 1003 (**sreu-men-*); Wat 64 (**sreu-*); Buck 1.36]. OIr *sruaim* 'river', ON *straumr* 'stream', OE *strēam* 'stream' (> NE *stream*), OHG *stroum* 'stream' (< Gmc **strauma-*), Lith *sr(i)aumuõ* 'rapid flowing', Latv *stràume* 'rapid flowing', Rus *strúmenĭ* 'brook', Thracian *Στρῦμων* (river name), Grk *ῥεῦμα* 'flow, river'. These words are derived from **sreu-* 'flow' and indicate '(the act of) flowing, streaming' which has only secondarily been taken up in several languages to indicate 'stream, river'.

?*adu- 'river'. [*IEW* 4 (**ad(u)-*)]. Venetic *Adua* (river

name), Germ *Attel* (river name), Latv *Adula* (river name), Thracian *Atlas* (river name), Av *aδu* 'canal', OPers *Adukanaiša-* (? name of a month). This entire set is constructed from river names whose mutual connection is much too uncertain to demand a common IE root; it should be rejected.

?*akʷelįeha 'river'. [Del 178]. Lat *Aquilō* (river name), Lith *Akēlė* (river name), Thracian *'Αχελον* (river name). To be rejected for the reasons set out above.

?*alontoseha 'river'. [Del 178]. Italian *Alento* (river name), Germ *Elz* (river name), Lith *Alantà* (river name), Dacian *'Αλούτας* (river name), Iran *Alanta* (river name). To be rejected for the reasons set out above.

?*nediha- 'river?' [*IEW* 759 (**ned-*); BK 556 (**nat'-/*nət'-*)]. OInd *nadī́-* 'river'. Other river names such as Grk *Νέδα* in Arcadia, *Νέδων* in Messenia are probably non-IE rather than Illyrian while connections with names such as Thracian *Νέστος* (river name) and NHG *Nette* is no more than a guess. The posited underlying root **ned-* 'roar', thus the 'roaring (one)', is limited to OInd *nádati* 'it roars', hence this word may have been an epithet for naming a river but such a conclusion is hardly required.

?*h₃eust-(i̯)o- 'estuary, river mouth'. [*IEW* 785 (**ōus-*); Wat 46 (**ōs-*); GI 714 (**ois-/*oHs-/ous-tʰ-*)]. Lat *ōstium* 'mouth of river', Lith *úostas* ~ *uostà* 'river mouth, harbor', Latv *uosts* ~ *uosta* 'harbor', Rus *ústĭje* ~ *ustī́* 'river mouth'. The analysis here is quite problematic. The Baltic and Slavic words cannot be derived from the word for 'mouth' found in OInd *ā́s-* 'mouth' but they can be cognate with OInd *óṣṭha-* 'lip' through a nominative plural (e.g., OCS *usta* 'mouth' < 'lips'), which gives a root **ous-*. Baltic *uo-* is unclear as is the acute accent in Lithuanian. The Latin word may continue **ous-* or be derived from *ōs* 'mouth' although in the latter case it would not be cognate with the words in Baltic and Slavic. A late dialectal term in some European stocks.

See also FLOW; RIVER GODDESS; RUN. [R.S.P.B.]

RIVER GODDESS

There are two categories of river goddesses in Indo-European. The first is indicated by a linguistically cognate set of names derived from PIE **dehanu-* 'river', while the second is exclusively confined to Indo-Iranian goddesses.

A PIE **dehanu-* is supported by OInd *Dānu*, mother of Vṛtra, the arch-withholder of the heavenly waters; Irish *Danu*, mother of the Tūatha Dē Danann; and Welsh *Dôn*. With gender-switching, the goddess became Greek *Danaus*, father of the Danaïds, who, after killing their husbands on their wedding nights, were condemned to eternally carrying water in a sieve; and great-great grandfather of *Danaë*, mother of the hero Perseus who saved princess Andromeda from a giant female sea-monster. Cognates without personification include the Slavic (borrowed < Iranian) rivers *Don*, *Dnieper* (< **Dānu apara* 'river to the rear'), and *Dniester* (< **Dānu nasdya* 'river to the front'); the Scythian *Tanaïs*; the Central European *Danube*; and smaller bodies of water: Lithuanian *Dunōjus*, 'Large Stream'; Latvian *Duņavas*, 'Small River, Stream'. Although linguistically cognate, it is difficult to support a common mythologem or discern a set of common themes that would permit the reconstruction of a personalized **Dehanu-* to PIE. Rather, we may have merely a personalization of the concept 'river' in a number of IE groups.

The second major type of IE river goddess can be seen in the OInd *Sárasvatī* and Iranian *Anāhitā*. Sarasvatī was goddess of music, poetry, and eloquence. She is the goddess most frequently invoked in the *Ṛgveda*. She was a transfunctional goddess: she brought wisdom (*RV* 6.49.7); she also guided 'all works of devotion' (*RV* 6.3.12) and she caused 'all prayers to succeed' (*RV* 6.3.8). She fulfilled the martial function as a 'defeater of enemies' (*RV* 6.61.7, 2.30.8). Just as virtually every Indo-European goddess, Sarasvatī represented the third function, as bestower of fortune and abundance (milk, melted butter, sweet water [*RV* 9.67.32]), beautiful gifts (*RV* 1.164.49), and she was 'fortune-bearing' (*RV* 7.93.6), thus personifying good fortune considerably earlier than Śrī Lakṣmī. Further, she was called 'best mother' (*RV* 2.41.16), and she set the seed in the womb (*RV* 10.184.1–2). She was wife of Brahma.

See also GODDESSES; RIVER; TRANSFUNCTIONAL GODDESS. [M.R.D.]

Further Readings

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ROAD

****h₁éitr̥ ~ *h₁éitōr*** (gen. ****h₁itnós***) 'way, road'. [*IEW* 294–295 (**i-ter*); GI 41; Buck 1071–1072; BK 442 (**ay-/*əy-*)]. Lat *iter* (gen. *itineris*) 'a going, walk, way', Hit *itar* 'a going', TochA *ytār* 'road, way', TochB *ytārye* 'road, way'. Although not richly attested, the cognates are widely distributed and the archaic heteroclitic declension strongly suggests PIE status. Cf. also Lith *eismė̃* 'way', Grk *οἶμος* 'stripe, course (of a song)', OInd *éma-* 'way', TochA *yme* 'road', TochB *ymiye* 'road', all derived by some suffix in *-m-*. From **h₁ei-* 'to go'.

****pόntōh₂s*** (gen. ****pn̥th₂ós***) '(untraced) path'. [*IEW* 808–809 (**pont(h)āˣ-*); Wat 49 (**pent-*); GI 49 (**pʰn̥tʰ-H-*); Buck 1071–1072]. OIr *āitt* (< **pōthni-*) 'place; ?crossing-place of a river', Lat *pōns* 'bridge', OPrus *pintis* 'way', OCS *pǫtĭ* 'way', Grk *πόντος* 'sea' (< *'path through the sea'), *πάτος* 'path, stride', *πατέω* 'step', Arm *hun* 'ford', Av *pantå* (gen. *paθō*) 'road' (from Iranian come OE *pæþ* 'path', OHG *pfad* 'path'), OInd *pánthās* (gen. *pathás*) 'path, (as yet untraveled) route'. From **pent-* 'find one's way'.

****pértus*** (gen. ****pr̥tóus***) 'passage way'. [*IEW* 817 (**per-tu-*); Wat 50 (**per-*); GI 580–581; Buck 7.22; BK 69 (**pʰ[ʰ]ar-/*pʰ[ʰ]ər-*)]. OWels *rit* 'ford', Gaul *ritu-* 'ford', Lat *portus* 'harbor', *porta* 'city gate', ON *fjǫrðr* 'estuary', OE *ford* 'ford' (> NE *ford*), OHG *furt* 'ford', Illyrian *Nau-portus* (place

name, presumably 'Boat Passage'), Av *pərətu-* 'ford, bridge', *Hu-pərəθw-a-* 'Euphrates' (< '± that which is good to cross'), Oss *fūrd* ~ *ford* 'large river, sea'. From **per-* 'go across'. Distribution suggests PIE status.

***sentos** 'way, passage'. [*IEW* 908 (**sento-*); cf. Wat 58 (**sent-*)]. OIr *sēt* 'road', Wels *hynt* 'way', ON *sinn* 'time', *sinni* 'way, company', *sinna* 'travel', OE *sīþ* 'way', *sīðian* 'go, depart, travel, wander', OHG *sind* 'way, side', *sindōn* 'go, depart, travel, wander', Goth *sinþs* 'time', Arm *ənt'ac'* 'way, passage', TochA *ṣont* (< **sēntu-*) 'street'. From **sent-* 'go'. If these words are not independent creations, the distribution suggests PIE status.

***stíghs** ~ ***stóigho/ehₐ-** 'path'. [*IEW* 1017–1018 (**st(o)igho-*); Wat 65–66 (**steigh-*); GI 155; Buck 10.72]. From **stíghs*: ON *stig* 'step', OHG *steg* 'plank, footbridge', OCS *stĭdza* 'footstep, street', Grk *στίχος* 'row, line', *στίχες* (pl.) 'series'; from **stóigho/ehₐ-*: OHG *steiga* 'step, way', Goth *staiga* 'way, path', Alb *shteg* 'path', Grk *στοῖχος* 'row, line'. Cf. also ON *stīgr* 'footpath', OE *stǣger* 'stair, staircase' (> NE *stair*). Formations of the west and center of the IE world. From **steigh-* 'step (up), go'.

?*u̯eĝhi̯ehₐ- 'track, road' (< *'capable of carrying passengers'). [*IEW* 1118–1120 (**u̯eĝh-*), 1123–1124; Wat 74 (**wegh-*); GI 627 (**weĝh-*); Buck 10.71; BK 301 (**wagʸ-/*wəgʸ-*)]. Lat *via* 'way, highway, road, path, street', Lith *vėžė* 'rut, track; trail', Latv *veža* 'track'. Possibly a word of the west and center of the IE world, possibly independent creations in the two stocks attesting this development. The underlying adjective is seen in OInd *vahyá-* 'fit to be borne' and, nominalized with different meanings in ON *vigg* 'horse', OE *wicg* 'horse', Av *vazya-* 'burden, load'. Other nominalizations of **u̯eĝh-* 'move, travel by vehicle' with similar meanings are **u̯eĝhos* in OIr *fecht* 'trip', ON *vegr* 'way', OE *weg* 'way' (> NE *way*), OHG *weg* 'way', Goth *wigs* 'way', and **u̯eĝhnos* in TochA *wkäṃ* 'way, manner', TochB *yakne* 'way, manner'.

Pathways or routes of passage have probably existed before the emergence of anatomically modern humans. Artificial constructions are attested at least since the Neolithic in those areas of Eurasia where conditions have permitted the survival of archaeological evidence for trackways. These may occur within settlements, i.e., streets, which can be deduced from the gridlike plans of villages in southeastern Europe or the remains of wattled walkways along lakeside settlements in central and western Europe. In western Europe where wetland conditions have preserved organic materials, brushwood and wattled trackways are known across bogs from the fifth millennium BC onwards and by the Iron Age timber corduroy roads suitable for the movement of vehicles are encountered north of the Alps while stone reinforced roads are one of the major achievements of Roman civilization.

See also FIND ONE'S WAY; GO; RIDE. [A.D.V.]

Further Reading

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ROAR

***reu-** 'roar, howl'. [*IEW* 867 (**reu-*); Wat 54 (**reu-*)]. Lat *rūmor* 'rumor, common talk', ON *rymja* 'roar', OE *rēon* 'cry', OCS *rovǫ* ~ *revǫ* 'roar', Grk *ὠρύομαι* 'howl', OInd *rauti* ~ *ruváti* 'roars, bellows'. Sufficiently widespread to guarantee its PIE status.

?*ned- '± roar'. [*IEW* 759 (**ned-*); BK 556 (**nat'-/*nət'-*)]. Thracian *Νέστος* (river name), Grk *Νέδα* (river name), Av *nad-* 'insult', OInd *nádati* 'sounds, cries, roars'. Only attested as a verb in Indo-Iranian. If the river names in the Balkans belong here, it suggests that this word may have existed in the center as well as the east of the IE world.

See also HOWL; MURMUR; NOISE; RIVER; THUNDER. [D.Q.A.]

ROD *see* POST

ROE (DEER) *see* DEER

ROE (FISH-EGGS) *see* FISH

ROOF

***ḱrópos** 'roof'. [*IEW* 616 (**ḱrāpo-*); Wat 33 (**krōpo-*); Buck 7.28]. MIr *crō* 'hovel, stall', OHG *rafo* 'rafter, beam' (none of the attestations of this word is sufficiently early that the lack of a spelling **hr-* is significant), NHG (dial.) *rafe* 'rafter, beam', *rafel* 'overhanging eaves; sideless lean-to', OCS *stropŭ* 'roof'. A lengthened-grade form, **ḱrōpos*, is to be seen in ON *hrōf* 'shed under which ships are built or kept', OE *hrōf* 'roof, ceiling; top, summit' (> NE *roof*), Dutch *roef* 'deckhouse, cuddy (of a barge)'. Apparently restricted to the NW of the IE world.

***h₁rebh-** 'cover with a roof'. [*IEW* 853 (**rebh-*); Wat 53 (**rebh-*); Buck 7.28; cf. *IEW* 866 (**rēp-*); Wat 54 (**rēp-*)]. ON *rāf* (< **h₁rēbhom*) 'roof', OHG *hirni-reba* 'skull' (< *'brain-roof'), Grk *ἐρέφω* 'cover with a roof, thatch; wreathe with garlands', *ὀροφή* 'roof, ceiling', *ὄροφος* 'thatch', possibly Khufi *rawj* (< Proto-Iranian **rabaka-*) 'plank'. If the Iranian word belongs here, which seems likely, then we have evidence for something that was widespread and old in IE. If the Iranian word does not belong, then we have evidence only for a word of the west and center of the IE world. Also probably belonging here are ON *raptr* 'rafter', OE *ræfter* 'rafter, beam' (> NE *rafter*), MDutch *rachter* 'rafter' (as if) from PIE **h₁robh-tro-*. Compare also ON *rif* 'rib, ridge' (borrowed in NE *reef*), OE *ribb* 'rib' (> NE *rib*), OHG *rippa* 'rib' (Gmc 'rib' < **h₁rebhi̯o-*; possibly by dissimilation from **h₁rebhro-*?), and OCS *rebro* 'rib', Rus *rebró* 'rib' (Slavic 'rib' < **h₁rebhró-*; possibly by assimilation from **h₁rebhi̯o-*?). The semantic shift in Germanic and Slavic whereby 'ribs' are seen as the roof, or perhaps as the rafters, of the body is noteworthy.

***(s)téges-** 'roof'. [*IEW* 1013–1014 (**(s)tegos-*); Wat 65 (**(s)teg-*); Buck 7.28; BK 135 (**t'aq'-/*t'əq'-*)]. OIr *tech* ~ *teg* 'house', OWels *tig* 'house', Grk *(σ)τέγος* 'roof; house, mansion', *στέγη* 'roof, ceiling; roofed area, room'; (pl.) 'house, mansion', *τέγος* 'roof; covered hall, chamber'. Though nominal derivatives in **-es-* were productive in late IE, the agreement

of Celtic and Greek may demonstrate that this particular derivative was a part of the PIE vocabulary. Other formations include: Lat *tĕctum* 'roof', *tēgula* 'roof-tile', ON *þak* 'roof', OE *þæc* 'roof' (> NE *thatch*), OHG *dah* (< **togom*) 'roof', OPrus *stogis* 'roof', Lith *stógas* 'roof', OInd *st(h)ag-* 'cover'. From **(s)teg-* 'cover'.

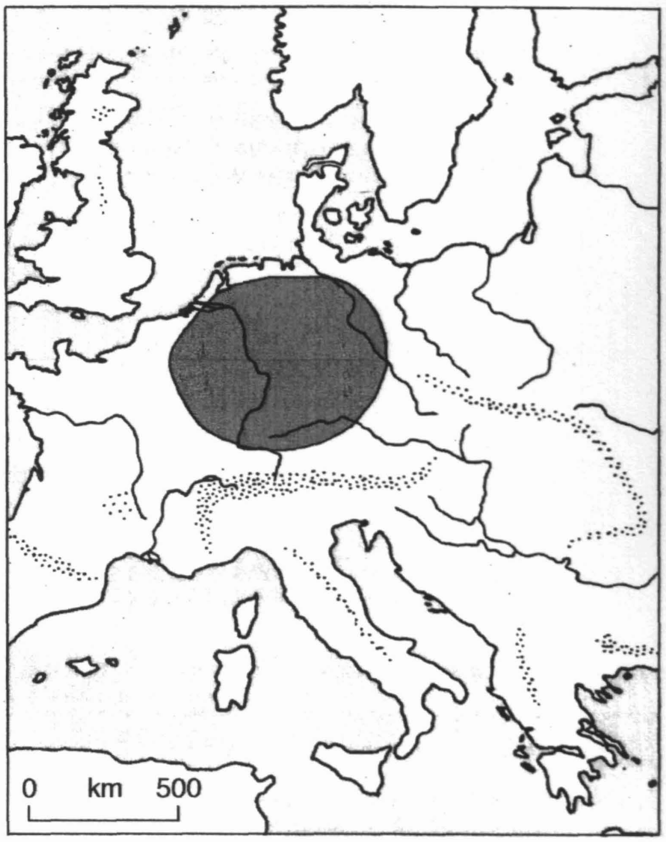
All words for the roof of the house derive from the concept 'cover' and provide no indication as to either the shape or the composition of the PIE 'roof'.

See also HOUSE. [A.D.V.]

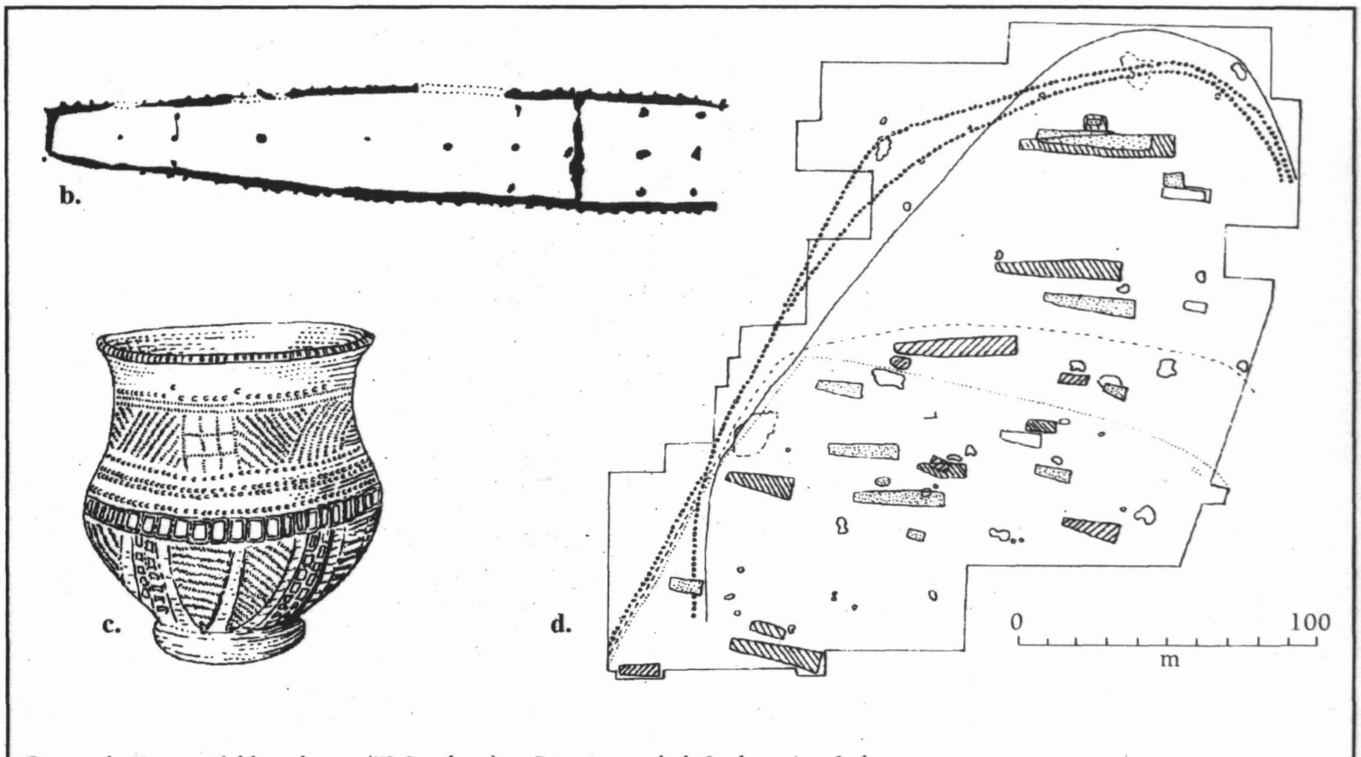
RÖSSEN CULTURE

Successor to the Linear Ware culture in western Europe *c* 4500–4000 BC, Rössen sites are known from northwestern France across southern and central Germany to eastern Switzerland. They continue some of the main features of the earlier Linear Ware culture such as enclosed settlements and long houses (now trapezoidal). Village settlements clearly practiced mixed agriculture. Cemeteries are known near settlements and include both flexed and supine burials.

The Rössen culture provided a substantial background to the expansions of the Neolithic both to the British Isles and possibly also into northwest Europe. Within the "Neolithic solution" to the IE homeland problem it is seen as a PIE society while the "Kurgan solution" views the Rössen culture as having its roots firmly set in the indigenous non-IE populations of the Linear Ware culture. Nevertheless, Marija Gimbutas has argued that the Rössen culture experienced some of the earliest



Rössen a. Distribution of the Rössen culture.



Rössen b. Trapezoidal long-house (52.2 m long); c. Rössen vessel; d. Settlement at Inden.

IE influences from the east. These would include the occasional presence of semi-subterranean dwellings, typical for the steppe cultures but intrusive in the Rössen region, pottery decorated with solar symbols, and fortified hilltop settlements. These arguments are not widely accepted.

See also KURGAN TRADITION; LINEAR WARE CULTURE. [J.P.M.]

Further Reading

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ROT

?*gʷeidh- 'be foul, purulent'. [*IEW* 46 (**gᵘeid(h)-*); BK 334 (**kʷiy-/*kʷey-*)]. ON *kveisa* 'boil, whitlow', MLG *quēse* 'blood blister', OCS *židukŭ* 'sap-filled, juicy (of plants)', Grk *δεῖσα* 'slime, filth'. A possible word of the west and center of the IE world.

See also FRESH; PUS; SAP; SMELL. [D.Q.A.]

ROUGH

***kreup-** 'rough'. [VW 207]. ON *hrjūfr* 'crude, rough', OE *hrēof* 'crude, rough, leprous' (> NE *rough*), OHG *hriob* 'leprous', *g(e)rob* 'fat, clumsy, undistinguished' (> NHG *grob*), Lith *kraupùs* 'dreadful, rough; timid', TochA *kärpi* 'common, raw, rough', TochB *kärpiye* 'common, raw, rough' (Toch < **krup(i)i̯os*). The distribution suggests PIE status.

See also SKIN DISEASE. [D.Q.A.]

ROW

***$h_1$erh_1-** 'row'. [*IEW* 338 (**erə-*); Wat 17 (**erə-*); GI 582 (**erH̥-/*reH-*)]. OIr *ráid* (*DIL ráid*) 'rows', ON *rōa* 'row', OE *rōwan* 'row' (> NE *row*), MHG *rüejen* ~ *rüegen* 'row', Lith *irìu* 'row'. Cf. the derivative **$h_1$er$h_1$tér-* 'rower': Grk *ἐρέτης* 'rower', OInd *aritár-* 'rower'. Geographical distribution makes this word a sure candidate for PIE status.

See also BOAT; OAR. [D.Q.A.]

RUB

***bhes-** 'rub' (pres. ***bhébhesti**, ***bhs-éh$_a$-ti**). [*IEW* 145–146 (**bhes-*); Wat 8 (**bhes-*); GI 134 (**bʰes-*)]. Alb *fshij* (< **bhs-in-i̯e/o-*) 'sweep, wipe, brush', Grk *ψάω* ~ *ψαίω* 'rub', OInd *bábhasti* 'chews thoroughly, masticates, devours', *psáti* 'chews, swallows'. Also here may belong various words for 'sand': Lat *sabulum*, OE *sand* (> NE *sand*), OHG *sant*, Grk *ψάμμος*. Not widely attested but the geographical distribution of those attestations would seem to be sufficient, along with the morphological identity of the present formations in Greek and Old Indic, to assure PIE status. The semantic link between 'rub' and 'sand' may be explained by the widespread use of sand in prehistoric societies as an abrasive for boring holes or polishing the surface of stone objects.

***ter(i)-** 'rub, turn'. [*IEW* 1071-1072 (**ter-*); Wat 70 (**terə-*); GI 152 (**tʰer-H-*); Buck 9.31; BK 95 (**tʃʰ]arʸ-/*tʃʰ]ərʸ-*)]. Lat *terō* 'rub', Lith *trinù* 'rub', Latv *trinu* 'rub', OCS *tĭrǫ* 'rub', Grk *τείρω* 'rub'. A word of the west and center of the IE world. Cf. Lat *tener* (< **teren*) 'delicate', Grk *τέρυς* 'delicate, weak', *τέρην* 'delicate', Av *tauruna-* 'young, delicate', OInd *táruṇa-* 'young, delicate'.

***treu(h$_x$)-** 'rub away, wear away'. [*IEW* 1073 (**treu-*); Wat 70 (**terə-*); Buck 9.31]. Certainly or probably from **treu-*: OE *þrōwian* (< **trōu̯eh$_a$-*) 'suffer', *þrāwan* (< **trēu̯e/o-*) 'turn, twist' (> NE *throw*), OHG *druoen* (< **trōu̯eh$_a$-*) 'suffer', Lith *trunė́ti* 'putrefy, rot, decay'; from **treuh$_x$-*: Lith *trūnė́ti* 'putrefy, rot, decay', OCS *tryjǫ* (< **truh$_x$i̯e/o-*) 'rub', Grk *τρύω* (< **truh$_x$i̯e/o-*) 'rub down, wear out'. An enlargement of the previous entry. A word of the west and center of the IE world.

***merd-** '± rub, scrape'. [*IEW* 736–737 (**mer-d-*)]. Lat *mordeō* 'bite', OInd *mṛdnā́ti* ~ *mrádate* ~ *mardayati* 'rubs', TochAB *märtk-* (< **mṛd-sk̑e/o-*) 'shave (hair)' (< *'scrape away' < *'rub away'). Some would add here OE *smeortan* 'hurt, smart' (> NE *smart*), OHG *smerzan* 'hurt, smart'. With or without the Germanic words, we have relatively few attestations but these are in a geographical distribution that virtually assures PIE status.

See also PIERCE; SAND. [D.Q.A.]

RUFF (FISH) *see* CARP

RULE

***tkeh$_1$-** 'rule' < *'take hold of a piece of land'. [*IEW* 626 (**kþē(i)-*); Wat 71 (**tkē-*); GI 127; Buck 19.31]. Grk *κτάομαι* 'procure', *κτέανα* (< **kte(w)ar*) 'property, goods' (cf. Myc *ki-ti-me-na ko-to-na* 'land allotment'), Av *xšayati* 'have power', OInd *kṣáyati* 'possess, rule', *kṣatrá-* 'authority, power, rule', *kṣatríya-* 'ruling' (< Indo-Iran **kša-* < PIE *tkeh$_1$-*). In the zero-grade, possibly Grk *κτίζω* 'establish, found', Myc *ki-ti-je-si* 'clear, bring into cultivation'. Cf. also OPers (< Median) *xšāyaθiya* 'king' > NPers *šāh* 'king, shah'. Along with OInd *kṣití-* 'residence' and *para-kṣít-* 'living in the neighborhood', the Greek form suggests that the underlying meaning pertained to 'the procurement of a piece of land' > 'possess' > 'rule'. A lexical isogloss in late Indo-European, i.e., Greek, Indo-Iranian.

***pótieto̯i** 'rule, is master'. [*IEW* 842 (**poti-*); cf. Wat 52 (**pot-*); GI 661 (**pʰotʰ-*)]. Lat *potior* 'am master', Av *paiθyeite* 'rules', OInd *pátyate* 'rules'. A denominative verb from **pótis* 'head of house, master'. At least of late PIE status.

***u̯al-** 'be strong, rule'. [*IEW* 1111–1112 (**u̯al-*); Wat 73 (**wal-*); GI 655; BK 487 (**wal-*)]. OIr *fal-n-* ~ *fol-n-* 'rule', *flaith* 'rulership', Wels *gwlad* 'rulership', Gaul *-valos* personal name element, ON *valda* 'rule', OE *wealdan* 'rule', *wieldan* 'govern' (> NE *wield*), OHG *waltan* 'rule', Goth *waldan* 'rule', OPrus (acc.) *weldīsnan* 'inheritance' (acc. pl.) *wāldnikans* 'kings', Lith *valdýti* 'rule, possess', Latv *vàldīt* 'rule', OCS *vladǫ* 'rule', TochA *wäl* 'king', TochB *walo* 'king' (Toch < **u̯leh$_a$nts* 'ruling'), TochAB *wlāw-* 'control'. Distribution assures PIE status.

See also HAND; LEADER. [E.C.P.]

RUN

bheg^w- 'run' (pres. ***bhég^{w}e/o-***). [*IEW* 116 (**bheg^u-*); Wat 6 (**bheg^w-*); Buck 10.51]. Lith *bėgu* 'run, flee', Latv *bęgu* 'run, flee', *bęga* 'flight', OCS *běžǫ* 'flee', Rus *begú* 'run, flee', Grk *φέβομαι* 'flee', *φόβος* 'flight, fear', *φοβέω* 'put to flight, scare off', Hindi *bhāgnā* 'flee', *bhāgā* 'running'. With the late Indo-Aryan cognate, distribution suggests PIE status.

dreh$_a$- 'run' (pres. ***didreh$_a$ti***). [*IEW* 204 (**drā-*); Buck 10.46; BK 157 (**t^{y}ur-/*t^{y}or-*)]. ON *titra* 'tremble', OHG *zittarōn* (< **di-dreh$_a$-*) 'tremble', Grk *ἀποδιδράσκω* 'run away', (aorist) *ἔδρᾱν* 'ran', OInd *drā́ti* 'runs, hastens'. Not widely attested but its geographical distribution guarantees PIE status.

drem- 'run'. [*IEW* 204 (**drem-*); Buck 10.46]. OE *trem* 'footstep', Grk (aorist) *δραμεῖν* 'run', *δρόμος* 'course', OInd *drámati* 'runs about', TochB *rmer* (< **dremor-*) 'swift'. Again sparsely attested but with a geographical distribution that assures its PIE status. Ultimately related to the previous entry (cf. **g^{w}em- ~ *g^{w}eh$_a$-* 'come').

tek- 'run, flow swiftly' (pres. ***téke/o-***). [*IEW* 1059–1060 (**tek^u-*); Wat 69 (**tek^w-*); GI 578 (**t^{h}ek^{ho}-*); Buck 10.32, 10.46, 10.51]. OIr *teichid* 'flees', Bret *techet* 'flees', Runic *þewaz* 'servant, vassal', OE *þēow* 'servant', OHG *deo* 'servant', *diu ~ diuwa* 'maid(servant)', Goth *þius* 'servant', *þiwi* 'maid(servant)' (Gmc < **teku̯ós, *teku̯íh$_a$-* 'runner, go-for'), Lith *tekù* 'run, flow (of water), rise (of sun)', Latv *teku* 'run, flow', *tekēju* 'keep running', OCS *tekǫ* 'run', *tēkajǫ* 'run about', Rus *tekú* 'flow', Alb *ndjek* 'follow', Av *tačaiti* 'runs', OInd *tákti* 'hurries', *takvá-* 'hastening, swift'. Cf. TochB *cake* (< **tekes-*) 'river'. Wide-spread and old in IE.

dheu- 'run' (pres. ***dhéu̯e/o-***). [*IEW* 259–260 (**dheu-*); Wat 14 (**dheu-*); Buck 10.46; BK 145 (**d^{y}aw-/*d^{y}əw-*)]. Grk *θέω* 'run', *θοός* 'swift', MPers *dawīdan* 'run', OInd *dhávate* 'runs', *dhā́vati* 'runs, streams, flows, glides', *dhautí-* 'spring, stream'. Possibly belonging here, with semantic specialization: ON *dǫgg* 'dew', OE *dēaw* 'dew' (> NE *dew*), OHG *tou* 'dew'. If the Germanic words belong here, then we have good evidence for PIE status of this word; if they do not then we have a word confined to the southeast of the IE world.

reth$_2$- 'run' (pres. ***réth$_2$e/o-***). [*IEW* 866 (**ret(h)-*); Wat 54 (**ret-*); GI 622 (**ret^h-*); Buck 10.46; BK 605 (**rat[^{h}]-/*rət[^{h}]-*)]. The underlying verb is preserved only in Celtic: OIr *rethid* (*DIL reithid*) 'runs', Wels *rhedaf* 'run'. Cf. the widespread derivative **roth$_2$eh$_a$- ~ *róth$_2$os*: OIr *roth* 'wheel', Wels *rhod* 'wheel', Lat *rota* 'wheel', OHG *rad* 'wheel', Lith *rãtas* 'wheel', (pl.) *ratai* 'wagon', Latv *rats* 'wheel', (pl.) *rati* 'wagon', Alb *rreth* (< **roth$_2$ik̂om*) 'ring, hoop, tire (for a carriage)', Av *raθa-* 'chariot, wagon', OInd *rátha-* 'chariot, wagon', *ratharyáti* 'rides in a wagon' (and also Late Lat *birotis* 'two-wheeled', Lith *dvirãtis* 'two-wheeled'). An old PIE word for 'wheel' which, by a natural metaphor, has come to mean 'wagon' or more particularly 'war-chariot' in a number of stocks.

tregh- 'run'. [*IEW* 1089 (**trāgh-*); cf. Buck 10.46]. OIr *traig* (< **traghet-*) 'foot', Wels *troed* 'foot', ON *þræll* 'servant', OE *þrǣgan* (< **trēghe/o-*) 'run', *þrāg* '(space of) time, season', OHG *drigil* 'servant' (< *'runner, go-for'), Goth *þragjan* 'run', SC *trâg* 'trace'. A word of the northwest of the IE world. The notion of 'servant' as 'runner, go-for' is also seen in the descendants of **tek-* and **dhregh-*.

dhregh- 'run'. [*IEW* 273 (**dhregh-*); Wat 15 (**dhregh-*); Buck 10.46; BK 84 (**dar-/*dər-*)]. OIr *droch* 'wheel', Lith *padróžti* 'go or run away, scamper away', Latv *drāžu* 'run fast', Grk *τρέχω* 'run', *τροχός* 'wheel, *τρωχάω* 'run, gallop', *τρόχις* 'servant, runner', Arm *durgn* (< **dhrōghon-*, with metathesis in the first syllable) 'potter's wheel' (Baltic would appear to reflect **dreĝh-* while Armenian reflects **dregh-*; Celtic and Greek are indifferent). Except for the different manner of articulation of the initial consonant this word is identical to the previous one and found in the west and center of the IE world. The two words must be related in some way, if only by mutual influence, but it is not clear how.

dhen- 'run, flow'. [*IEW* 249 (**dhen-*); Wat 13 (**dhen-*); GI 578 (**d^{h}en-*); BK 83 (**dan-/*dən-*)]. Lat *fōns* 'spring', OPers *danuvatiy* 'flows', NPers *danīdan* 'hasten, run', OInd *dhánvati* 'runs, flows', *dhanáyati* 'runs, sets in motion', TochAB *tsän-* 'flow', TochB *tseñe* 'influence'. Reasonably widespread, certainly of PIE status.

k̂ers- 'run'. [*IEW* 583–584 (**k̂ers-*); Wat 30 (**kers-*); Buck 10.46]. OIr *carr* 'vehicle', Wels *car* 'vehicle', Lat *currō* (< **k̂r̥se/o-*) 'run', *currus* 'wagon', *cursus* 'course', MHG *hurren* 'hasten', Grk *ἐπίκουρος* 'running for help', TochA *kursar* 'league; course, path', TochB *kwärsar* 'league; course, path'. Perhaps belonging here are ON *hross* 'horse', OE *hors* 'horse' (> NE *horse*), OHG *hros* 'horse'. Sufficiently widespread to be a good candidate for PIE status.

See also Flow; Horse; River; Turn; Wagon; Wheel. [D.Q.A.]

RYE

rughis 'rye (*Secale cereale*)'. [*IEW* 1183 (**u̯rughi̯o-*); Wat 79 (**wrughyo-*); GI 568 (**wrug^{h}yo-*); Buck 8.45]. ON *rugr* 'rye', OE *ryge* 'rye' (> NE *rye*), OSax *roggo* 'rye', OHG *rocko* 'rye' (the latter two from **rughnon-*), Lith (pl.) *rugiai* 'rye', Latv (pl.) *rudzi* 'rye', OCS *rŭžĭ* 'rye', Rus *rožĭ* 'rye'. Confined to the northwest portion of the IE world, we have a late dialectal IE innovation, perhaps a borrowing from some unknown substratum language. Attempts to link this series with Thracian *βρίζα* 'emmer-wheat, rye' and its modern continuation Bulg *brica* '(type of) summer grain' are unconvincing.

h$_a$éreh$_a$- '± ryegrass'. [*IEW* 16 (**ai-rā*)]. Latv *aîres* 'ryegrass', Grk (pl.) *αἶραι* 'weeds in wheat, ryegrass', OInd *erakā* 'sedge' (from which a mat could be woven). Sufficiently widespread to be considered of PIE date. Here is one of the very few examples of a word which survived because of its *negative* economic importance—a plant that interfered with the growth of more important plants. As the earliest attestations of rye in Europe tend to be as weeds mixed with the remains of wheat and barley, the lexical agreement between Greek and Baltic suggests that this word might have been quite old. Rye, either wild or domestic, is not generally found in ancient India which may account for a shift in the semantic

field of the word.

The distribution of cognate terms for 'rye' is hardly surprising as this cereal is specially appreciated in northern temperate climates since it is able to grow on the sandy soils of the north and withstand the effects of cold winters far better than wheat. The wild predecessor of domestic rye (*Secale montanum*) was probably confined to the region of eastern Turkey and Armenia. Neither it nor domestic forms of rye are well known on Neolithic sites, its earliest domestic appearance occurring in the early Neolithic of Turkey. Grains of rye have been claimed for Neolithic sites in Europe but generally rye would appear at best to have been a weed accompanying wheat and barley crops rather than domesticated in its own right. The earliest certain evidence for the domesticated rye tends to be from the Bronze Age (central Europe) and it is known here and in eastern Europe, including the Caucasus, from the Bronze Age onwards. An indication of its rise in importance in the north can be seen from Poland where only 6% of the Neolithic sites yielding seed remains exhibit rye while 57% do so by the Iron Age. In any event, it is likely that the word spread among the ancestors of the northwest IE stocks during the Bronze Age or, possibly, as recently as the Iron Age.

See also **Agriculture**; **Grain**. [D.Q.A, J.P.M.]

·S·

SACRED

sakros 'holy'. [*IEW* 878 (**sak-*); Wat 55 (**sak-*); GI 702 (**sak^h-*); Buck 22.19]. Lat *sacer* 'sacred', *sacerdōs* 'priest' (< **sakro-dhōt-s* 'one who makes holy'), TochA *säkär* 'blissful, happy; blessed, auspicious', TochB *säkre* 'blissful, happy; blessed, auspicious'. Cf. Lat *sanciō* 'hallow; establish a law', *sanctus* 'sanctified', Umb *Sancus* (a divinity), Hit *saklāi-* 'rite, custom'. Although sparsely attested, distribution suggests PIE status. On the basis of the Latin and Hittite, the basic meaning of this word would relate to the world of ritual where something was made sacred.

u̯eik- 'consecrate; forbid to (= separate from) human contact'. [*IEW* 1128 (**u̯eik-*); Wat 75 (**weik-*); GI 704 (**weik^h-*); Buck 22.42–43; BK 510 (**wuy-ik[^{h}]-/ *woy-ik[^{h}]-*)]. Lat *victima* 'sacrificial victim', ON *vīgja* 'consecrate', *vē* 'temple', OE *wēoh* 'relic, sacred image', (fem.) *wicce* ~ (masc.) *wicca* 'witch' (> NE *witch*), OHG *wīhan* 'consecrate', *wīh* 'holy', Goth *weihan* 'consecrate', *weihs* 'holy', Lith *viẽkas* 'life force', Av *ava-vaēk-* 'exclude; seek out', OInd *vinákti* 'select out, sift'. Distribution indicates PIE status.

k̑u̯en(to)- 'holy'. [*IEW* 630 (**k̑u̯en-to-*); Wat 34 (**kwen-*); GI 702 (**k̑^{h}wen-t^{h}o-*); Buck 22.19]. ON *hūsl* 'Eucharist', OE *hūs(e)l* 'sacrifice; Eucharist', Goth *hunsl* 'sacrifice', OPrus *swenta-* (place name element), Lith *šveñtas* 'holy', OCS *svętŭ* 'holy', Rus *svjatój* 'holy', Av *spənta-* 'holy'. Perhaps also Hit *kunna-* 'right, correct', TochB *känts-* (if < **k̑untįó-*) '± right, correct, firm'. Originally *'swollen (with force)' from **k̑eu(h$_1$)-* 'swell'; cf. also Grk *κῦριος* 'lord', Av *sūra-* 'strong'. Widespread and old in IE.

noibhos 'holy'. [*IEW* 760 (**noi-bho-*)]. OIr *noīb* 'holy', OPers *naiba-* 'holy'. From **nei-* 'be excited'. Sparsely attested, but the geographical distribution suggests PIE status.

seup- 'pure, what is taboo for humans'. Umb *supa* 'viscera of sacrificed animal', Hit *suppa-* 'flesh or viscera of sacrificed animal', *supp-i-* 'pure'. Although attested only in two stocks, cognates between Italic and Anatolian suggest considerable IE antiquity.

u̯eh$_a$tis 'god-inspired'. [*IEW* 1113 (**u̯āt-*); Wat 78 (**wet-*); GI 734 (**wāt^h-*)]. OIr *fāith* 'prophet', Wels *gwawd* 'poem', Gaul *ουατεις* 'those performing sacred rites and investigating natural phenomena', Lat *vātēs* 'seer, prophet', ON *ōðr* 'raging', *ōðr* 'poetry', *Ōðinn* 'Ōðinn', OE *wōd* 'raging' (> early NE *wood* 'insane, mad'), *wōd* 'sound, song, zeal', *wēding* 'insanity', *Wōden* 'Ōðinn' (cf. *Wēdens-dæg* 'Wednesday'), OHG *fer-wuot* 'raging', *wuot* 'violent emotion, rage', *Wuotan* 'Ōðinn', Goth *wōds* 'demon-possessed', Av *api-vatāite* 'inspires', OInd *ápi-vat-* 'inspire'. One should note for Germanic that one of Ōðinn's attributes was that of inspirer of poetry (as well as the inspirer of battle-rage). The meaning shown by Gothic reflects a change in perspective brought about by Christianization. Widespread and old in IE.

Another major concept involved with the sacred is 'wholeness' which may be seen in **k̑u̯en(to)-* where its derivation from **k̑eu(h$_1$)-* 'swell' also indicates 'fullness, complete' and a similar connotation can be found in **h$_a$éuges-* 'fullness of sacred power'.

According to Emil Benveniste, the concept of the sacred generally required a number of different terms in each IE stock that reflected an opposition between the positive aspect of the sacred, i.e., the inherent power of divinities, and the negative aspect or taboo, that which was forbidden to human society to touch. These positive:negative oppositions can be found in Italic, e.g., Lat *sacer:sanctus* '(intrinsic) sacredness, something outside the world of humankind: (explicit) sacredness created and defended by humans', in Grk *ἱερός: ἅγιος* 'holy, divine: devoted to the gods, sacredness defended

by humans'; and Av *spǝnta-: yaoždāta-* '(intrinsic) holiness: put into the state required by the cult'. Although many of these terms have cognates in other IE languages, there is no overall consistency in their valence and he saw no evidence of a single PIE term that embraced both the positive and negative aspects of 'sacred'. Calvert Watkins, however, observes that **seup-* might at least provide a reconstruction for the negative aspect, i.e., taboo. In the Iguvine tablets where Umb *supa* appears, the contexts indicate that it is something taken from a victim which may be cooked on a fire and then offered to the gods but not consumed by humans. Similarly, the use of Hit *suppa-* indicates that it is something sacrificed to the gods but not consumed by humans or, as one tablet (KUB XXX 10 Vs. 13) puts it explicitly: "what is sacred (*suppi*) to my god (and) not right for me to eat". Watkins suggests that **seup-* reflects the negative aspects of the sacred and forms the second half of a PIE **sak-:seup-*.

Harriet Lutzky has suggested that there was an underlying system in PIE thought for expressing the concept of 'sacred' which involved three elements: a conceptualization of the 'sacred' as something 'set apart', the mediating act of ritual, and the concept of the sacred as 'wholeness' or 'integration'. The first component may be seen in the terms deriving from **sakros* and **u̯eik-*, both of which Lutzky associates with the verbal roots **sek-* 'cut' and **u̯eik-* 'separate', suggesting that the 'sacred' is to be understood as something apart from ordinary life. But there is also the suggestion that **sakros* also indicates 'to bind in contract'. She also suggests the possibility that **u̯ei-* 'twist, bind' may underlie **u̯eik-* in which case both of these words would be bipolar with meanings of 'separate' and 'bind' conjoined. To this might be added the words for order **i̯eu̯(e)s-* where she sees an underlying **i̯eu-* with meanings of both 'separate' and 'bind'.

See also COMPARATIVE MYTHOLOGY; FORCE; GOD; GODDESSES; LAW; POET; SACRED DRINK. [E.C.P., J.P.M.]

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SACRED DRINK

The words for alcoholic beverages that may be reconstructed to PIE would appear to be restricted to 'mead' and 'wine'; however, there is one further term that appears to designate specifically a drink consumed by the gods.

n̥-mr̥-tós 'un-dying'. [*IEW* 735 (**n̥-mr̥-to-*); Wat 42 (**mer-*); GI 722 (**n̥-mr̥-tʰo-*)]. Grk *ἄμβροτος* 'immortal, divine', *ἀμβροσίᾱ* 'ambrosia, food of the gods', Av *aməša-* 'epithet of deity', OInd *amŕ̥ta-* 'name of deity'. Dialectally restricted to the IE southeast.

Ambrosia Cycle

Although most if not all early IE peoples shared similar ideas concerning a sacred beverage, the concept of spiritual elation or increased military prowess induced by alcohol is so widespread that most parallels within IE ritual and mythology tend to be regarded as generic rather than a genetic PIE inheritance. The single major attempt to postulate a PIE myth concerning a sacred drink, what is known as the "ambrosia cycle", was both proposed and later rejected by Georges Dumézil. He suggested that the various IE stocks had inherited a common myth involving a drink that endowed immortality which a trickster figure attempted to steal for mankind but failed, thus condemning humans to eventual death and insuring that only the gods remained immortal. The concept of this sacred drink of immortality, according to Dumézil, persisted all the way into Christian mythology such as the quest for the Holy Grail. Although Dumézil came to reject his own theory, the "cycle of the mead" has been re-examined by J. Oosten, again as an inherited IE myth. Oosten emphasizes a number of parallels: 1) in both Indic and Norse mythology, the sacred drink is prepared from the sea (in the *Mahābhārata* the *amŕ̥ta* is prepared from the sea, in the Norse *Hymiskviða*, the sacred drink is found as a consequence of a banquet hosted by the Sea god and in other tales the sea is regarded as the home of "ale"; 2) in the Indic version, the sea is stirred by Vāsiuki, an enormous serpent who serves as a churning rope, in the Norse myth the Miðgard-serpent is caught as part of the search for the magic caldron; 3) in the Indic myth both gods and demons must co-operate in preparing the sacred drink; in the Norse myth, both gods and giants (the Norse equivalent of demons) must work together to find the mead; 4) in both traditions the two parties fall out over the sharing of the sacred drink with the gods ultimately victorious as they deprive their enemies of the drink and also of immortality; and 5) the contest for the mead is socially a contest between paternal relations that compete against each other while sharing is performed between affines and maternal relations.

Indo-Iranian Tradition

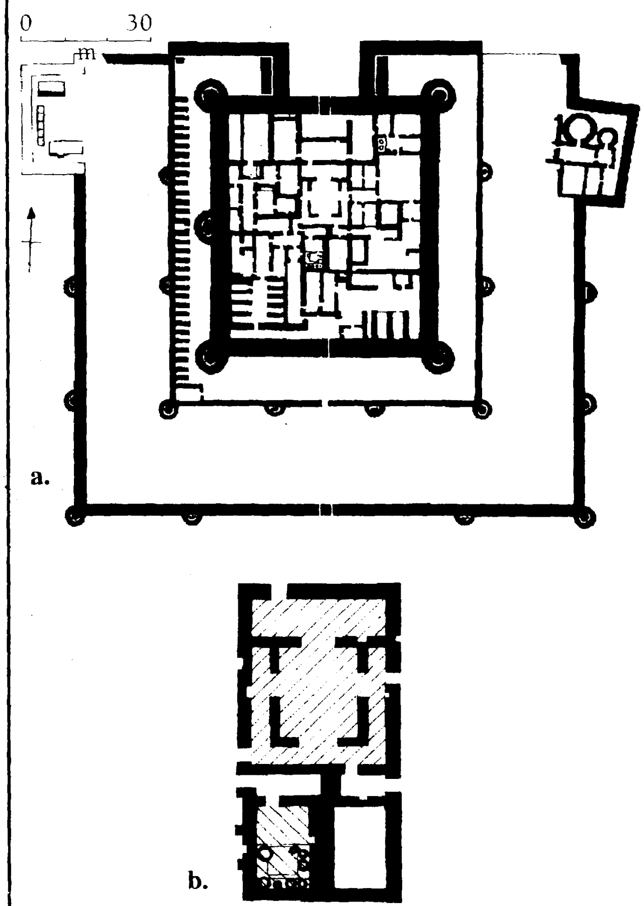
In ancient India the sacred drink is *soma*, which according to Vedic texts, was first pressed, then filtered, after which it might be mixed with water, milk, butter or barley. Soma was critical to Vedic sacrifice and after being offered, the remaining portion was consumed by the priest. Soma was deified as the 'master of plants' and over a hundred hymns of the *R̥gveda* are dedicated to Soma, the third most invoked deity. In ancient India, *soma* was very much distinguished from *surā*, an intoxicating liquor which might be distilled from a variety of substances, rice (rice-brandy), molasses and the *madhūka* flower all being cited. Surā was given, for example, to the

warrior deity Indra by Namuci to incapacitate him although it provided Namuci himself with enhanced power (*RV* 12.7.3.1). Similarly, in the *Mahābhārata*. (3.121–125) the demon Mada 'drunkenness, intoxication' is created to induce Indra to admit the Aśvins to the divine sacrifice. The consumption of *surā* by the three Aryan classes was forbidden in the "Law of Manu". Like Soma, this liquor was also deified as a goddess, Surā, who is identified as the consort of Varuṇa. The third alcoholic drink of ancient India was *amṛta*, literally 'immortal' from *a-* 'un' and *mṛta* 'dead' which is cognate with the Greek *ambrosia* (cf. also Grk νέκταρ 'nectar, drink of the gods' which some would derive from **nek̂-tṛ*h_2 'death-overcoming' [*IEW* 762, 1074; GI 723 (**Hnek̂*^{h}*-t*^{h}*ṛH-*); BK 557 (**nik[*^{h}*]-/*nek[*^{h}*]-*)]). It is a celestial beverage, often likened to rain in the Vedic texts although the *Atharvaveda* (4.35,6) suggests that it was distilled from rice. Its remit was to bestow immortality to the gods but it occasionally seems to cross with *soma* in terms of application.

In ancient Iran the cognate of Soma is the deity Haoma (deified *haoma*, the drink), which is also pressed and dispels death. Zaraθuštra attacked its abuse by the clergy who got drunk on it (*Yasna* 48.10); suggestions that the *Avesta* also indicates that *haoma* was ingested, then passed as urine, and redrunk to enhance its potency, a practice to be found among Siberian shamans, would appear to be unfounded.

The botanical identification of soma/haoma (**sauma-*) has been much discussed. One recent popular theory suggested by Gordon Wasson was that on the basis of descriptions in the Vedas, it was to be identified with fly-agaric (*Amanita muscaria*), a poisonous but hallucinogenic toadstool which grew on the roots of the birch tree. The case for such an identification rested on the absence of description in the Vedas for the parts of a flowering plant, e.g., roots, branches, seeds, hence a fungus might be suspected. It was also said to grow in the mountains as is the case for the fly-agaric. The fly-agaric also accommodated the descriptions of soma to be found in the Vedas. These arguments, however, have been regarded as unpersuasive since the Vedas do not describe the plant but rather the pressed juice or the deity, i.e., they lack any meaningful description. References to mountains might also be interpreted as simply recalling soma's lofty origins.

David Flattery and Martin Schwartz have proposed a different theory where they emphasize that the Iranian evidence should be paramount. As **sauma* is an Indo-Iranian word, it is far more likely that the original **sauma* is to be found in Iranian territory rather than Indo-Aryan since the staging area of Indo-Iranian migrations was from the north. They argue that the only widespread source of a psychoactive drug was the harmel or wild rue (*Peganum harmala*), a bushy-shaped plant with stems from one to two feet high. Harmel has long been known in Iran and neighboring territories for its pharmacological product, harmeline. The same drugs found in harmel are also known in certain South American cultures where their use parallels that attested in Indo-Iranian religion, e.g, it is employed in ceremonies guided by religious specialists,



Sacred Drink a. Togolok with ritual structure; b. Ritual complex (enlarged from center of [a] with evidence for the preparation of a ritual drink).

it induces "visions" which are interpreted as a higher plain of reality, and it can accommodate the various descriptions in the *Avesta* and later Iranian tradition. It also has apotropaic uses, i.e., as an incense, and it is the only incense plant in Iran that also has psychoactive properties.

This suggestion has now been overtaken by archaeological evidence from Bronze Age Central Asia. Here, in a number of urban complexes of the BMAC (Bactrian-Margiana Archaeological Complex), there have been discovered rooms for religious rites which included traces of *ephedra* and hemp, both of which have been discovered with paraphernalia for the preparation of a (hallucinogenic or intoxicating) beverage. Ephedra, which occurs in some forty species across Eurasia, appears as a bush consisting of a series of leafless stems. The stems contain ephedrine (in various amounts depending on the species) which raise blood pressure, stimulate metabolism and heart muscle contraction, and increase perspiration. Ephedra is often named after some derivation of *soma/haoma* among the modern Indo-Iranians from north India to Central

Asia, e.g., Nepali *somalata*, Baluchi *hum*, NPers *hōm*. Some now argue that the ritual consumption of *soma/haoma* may have originated in these Central Asian towns in the Bronze Age and was then carried further south by the migration of the Indo-Iranians.

The certain identification of the botanical referent behind **sauma* is still open and the plausibility of some of the above suggestions warns that there may have been considerable mutability in what various Indo-Iranian populations themselves understood as **sauma*.

Other IE Traditions

Other than the Greek ambrosia which grants immortality and may be regarded as a widespread folkloric motif, there is a hint at the tri-functional division of beverages in the χοή, the libation in honor of the dead. Here the sacred drinks were honey (priest), wine (warrior), and milk (shepherd or farmer).

In Norse mythology it is mead that occupies the place as sacred drink and offers interesting parallels with the Indic evidence. In both India and Norse mythology the "War of the Foundation" is concluded with an intoxicating drink. In India, the hostilities cease with the creation of the monster Mada who is subsequently dismembered into four parts—drunkenness, womanizing, gambling and hunting. At the end of the war of the Æsir and Vanir, the combatants symbolize their friendship by both spitting into a jar and out of this spittle is created Kvasir who is virtually wisdom incarnate. He is killed by two dwarves but they mix his blood with mead to create a special drink which is subsequently stolen by Óðinn. A possible parallel in Irish folklore is Finn's theft of a drink from the well of Bec mac Buain, otherwise the well of wisdom. There is a marked difference in the attitude of the ancient Indian and the Norse in that the latter believed that alcohol (mead) grants wisdom and the gift of poetry while these gifts were reserved for *soma* in India where the drinking of alcohol was frequently despised. It should be emphasized that while the *Ārya* of Old India consumed *soma* like their Iranian cousins, *mádhu* 'mead' was the primary ritual drink of the Dāsas whom some would regard an earlier wave of Indo-Aryans who may have preserved better some of the more ancient IE beliefs.

One further major comparative theme between India and western Europe concerns the horse sacrifice associated with the installation of a king. In India, the ritual was the *aśvamedha*, the first element meaning 'horse' and the second deriving from **maddhos* 'drunk' (or **meịdhos* 'strength') while its structural counterpart among the Celts appears in names such as *Epomeduos* 'horse-mead/ritual beverage' or simply **Meduā*, e.g., the Irish Medb.

See also **BMAC**; **Bee**; **Ferment**; **Hemp**; **Honey**; **Horse**; **Horse Goddess**; **Juice**; **Poppy**; **Wine**. [J.P.M.]

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SACRIFICE

****h₂ed-bher-*** 'sacrifice'. OIr *ad-opair* 'sacrifices', OWels *aperth* 'animal sacrifice, offering, prayer', Umb *arsfertur* ~ *arsfertur* (< **ad-bher-tōr*) 'priest'; cf. also Av *fra-bərətar-* '± sub-priest', OInd *prá-bhartar-* 'one who brings, presents', *prá-bhṛti-* 'offering', *pra-bhṛ-* 'bring, offer; (middle) praise'. The underlying structure of these comparisons is the use of PIE **bher-* 'carry, bear' in the sense of 'make an offering' which is lexically best attested in the western part of the IE world but which, as the Indo-Iranian words suggest, may have still greater antiquity.

****dh₂epnom*** (or ****dapnom***?) 'sacrificial meal'. [*IEW* 176–177 (**dāp-*); Wat 10 (**dap-*); GI 606 (**t'aHpʰ-*)]. Lat *daps* 'sacrificial meal', ON *tafn* 'sacrificial animal', Grk ***δαπάνη*** 'ostentatious expenditure, consumption', Arm *tawn* 'feast', Hit *ᴸᵁtappala-* 'person responsible for court cooking', Toch A *tāp-* 'eat'. From **dh₂ep-* 'apportion', i.e., a 'sharing out' of a communal feast. Widespread and clearly old in IE.

****tolko/eh₂-*** 'sacrifice, sacrificial meal'. [*IEW* 1062 (**telek-*)]. Lith *talkà* 'collective assistance; feast after such work', Latv *tàlka* 'collective assistance by neighbors to help someone out; a feast following such work', Rus *toloká* 'after-work feast', TochA *talke* 'sacrifice', TochB *telki* 'sacrifice'. Though found in only three stocks, it would appear that we have in this word something of at least late PIE status.

The **dh₂epnom* would appear to have been a meal offered after a sacrifice. In Latin contexts it seems that this meal was not offered directly to the gods but rather was a large and ostentatious feast which one held at great expense after a consecration. Emile Benveniste has illustrated how both Latin and Greek contexts emphasize the ostentatious expenditure, e.g., Grk ***δαπανάω*** 'spend', ***δαπάνη*** 'ostentatious expenditure' and Lat *damnāre* 'to condemn, inflict a *damnum* (< **dapnom*)', i.e., an 'injury' where the underlying semantic development here has emphasized the damage one must endure in making such an expenditure. These concepts of magnificent feast, ostentation, conspicuous consumption and their reciprocal negative impact on one's income are all remini-

scent of the anthropological concept of the *potlatch*. Here, an individual wishing to achieve heightened social status undertook a great feast to which he invited his neighbors and, particularly, his rivals in social esteem. Through the conspicuous "wastage" of his own goods, the host humiliated his rivals (who would be required to match his accumulation and expenditure of goods to challenge him) and also emphasized his social prominence. It has often been argued that through such acts, often requiring the mobilization of one's kin group in the preparation of the feast, societies became increasingly more stratified and complex as the "big men", those who had both the ambition and the kinship-based links, began increasingly to organize societies under their own direction.

The ritual of sacrifice in IE tradition has been regarded by Bruce Lincoln as a re-enactment of the IE cosmogonical myth, i.e., the sacrifice of an animal (or occasionally a human) recreates the first sacrifice which established the physical and moral components of the universe. Thus, in the *Aitareya Brāhmaṇa* (2.6), the victim is dismembered with the feet lying to the north, back to the sun (the sun was created from the eye of the primeval giant), the breath to the wind, flesh to the earth, etc. In this way, the sacrifice "makes whole" an ever depleting universe.

See also Cosmogony; Horse; Horse Goddess; Worship.
[E.C.P., D.Q.A., J.P.M.]

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SALMON

lók̂s (gen. ***l$_e$k̂sós***) 'large anadromous salmonid, salmon (-trout) (*Salmo salar* and/or *Salmo trutta*)'. [*IEW* 653 (**lak̂-so-s*); Wat 35 (**laks-*); GI 454 (**lak̂^{h}s-*)]. ON *lax* 'salmon', OE *leax* 'salmon', OHG *lahs* 'salmon' (< Proto-Gmc **lahsa-*), OPrus *lasasso* (< **lok̂sok̂i̯eh$_a$-*) 'salmon', Lith *lãšis* 'salmon', Latv *lasis* 'salmon' (Lith and Latv < **lok̂si-*), Lith *lašìšà* (< **lok̂sik̂i̯eh$_a$-*) 'salmon', Rus *losósī* 'salmon', Arm *losdi* 'salmon trout', Oss *læsæg* 'salmon trout' (Slavic and Iranian < **lok̂sok̂o-*), TochB *laks* (< **l$_e$k̂si-*) 'fish'. Perhaps also to be seen in VulgLat **locca* 'loach' (> French *loche* 'loach'). An Old Indic cognate has also been claimed in *lākṣā* 'lac'. The presumed semantic development is 'salmon-colored' > *'reddish' > 'lac'. There is nothing phonologically or morphologically problematic with such a derivation, though the word may also be derived from *rag-* 'dye'. (Certainly not connected is *lākṣá-* 'goal' or *lakṣá-* 'hundred thousand'.) Whether OInd *lākṣā-* belongs here or not, **lók̂s-* is clearly of PIE date. The fact that the word for the larger salmonid has become the general word for 'fish' in Tocharian, a language spoken in a region totally devoid of any salmonids, suggests that, whatever the exact referent in PIE, it was ecologically and/or economically pre-eminent.

Under the assumption that it referred only to the Atlantic salmon (*Salmo salar*), whose range is the North Atlantic, Baltic, and the rivers draining into them, the presence of this word in PIE was used as a strong argument (the "Lachsargument") that the PIE speakers must have originally inhabited some portion of the North European plain. Richard Diebold has shown that the anadromous varieties of *Salmo Trutta* (*labrax* and *caspiensis*), salmon trout native to the Pontic and Caspian seas and the rivers draining into them, makes a better candidate as the semantic referent for **lók̂s*. These fish regularly achieve lengths of over a meter and weights on the order of 50 kg. Diebold argues that this fish was the original referent and that the linguistic ancestor of the Germans, Balts and Slavs extended this word to also include the Atlantic salmon (*Salmo salar*) when they moved north into its territory. Diebold suggests that the Proto-Indo-Europeans divided the salmonids into two main categories: 1) the large anadromous salmonid (*Salmo trutta*) and 2) the smaller, presumably non-anadromous 'brook trout'.

The other salmonids—the huchen (the second largest of the salmonids after the Atlantic salmon), the char and the grayling—are widely found over Eurasia but examination of their names in various Indo-European languages reveals no patterns to suggest deep linguistic inheritance. Diebold has suggested that the most likely reason the various IE stocks had to create new words for all of the other salmonids is that they were not known to the earliest PIE community. The only area in Eurasia relevant to IE origins that lacks all the other salmonids but possesses those lexically reconstructed to PIE (salmontrout and brook trout) is the territory north of the Black and Caspian seas. This use of negative evidence, however, is suspect as we have many examples of other flora and fauna which must have been known to the earliest IE-speaking communities but which show minimal or no evidence of cognates across the IE stocks, e.g., 'badger'.

The salmon is presented in Celtic and Germanic belief as a primordial being and repository of ancient lore, e.g., the "salmon of knowledge" which is frequently found in Irish tales.

See also Fish; Trout. [D.Q.A., J.P.M.]

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SALT

***seh$_a$-(e)l-** 'salt'. [*IEW* 878–879 (*sal-); Wat 55–56 (*sal-); GI 581 (*sal-); Buck 5.81]. OIr *salann* 'salt', Wels *halen* (< *saleino-) 'salt', *heli* 'brine', Lat *sāl* (< ? *sāls) 'salt', ON *salt* 'salt', OE *sealt* 'salt'(> NE *salt*), OHG *salz* 'salt', Goth *salt* 'salt' (< Gmc *saldom), Lith *sólymas* 'brine', *saldùs* 'sweet' (< 'tasty' < 'salty'), Latv *sàls* 'salt', OCS *solĭ* 'salt', *sladŭkŭ* 'sweet', Alb *ngjel-bët*, *ngjel-mët* (< *h$_1$en-sh$_a$el-i-) 'salty', *njelm* 'be salty', Grk ἅλς (masc.) 'salt', (fem.) 'sea', Arm *ał* 'salt', OInd *salilá-* 'sea, flood', TochA *sāle* 'salt', TochB *salyiye* 'salt'.

The reconstruction here for what is clearly the PIE word for 'salt' rejects the existence of PIE *a, hence the Germanic, Slavic and Old Indic *a* must derive from *h$_a$e (elsewhere *a* might be solely h$_a$; in Germanic *sh$_a$l-C > *sul-C as in OHG *sulza* (< *sh$_a$l̥d-io-) 'brine'; *sh$_a$l-V would yield *sal-V). The long *ā* in Latin may be from *eh$_a$ or eh$_a$e or a form with *ē (*ēh$_a$, *h$_a$ē), but the length may also be analogical. The acute accent of Lith *sólymas* points to *seh$_a$l-. The circumflex of Latvian requires *eh$_a$e, *ēh$_a$ or *h$_a$ē. In this way we can reconstruct the paradigm as having: *seh$_a$- and *sh$_a$-el-; the nominative possibly had *seh$_a$-, the accusative *sh$_a$-el-m̥, the genitive *sh̥$_a$-l-os. To explain the Lithuanian acute and Latvian circumflex, it seems easiest to assume that generalization of *seh$_a$- led to *seh$_a$-l- in Lithuanian and *seh$_a$-el- (acc.) in Latvian. For the nominative, one may consider *seh$_a$-ōl, *seh$_a$-ēl (?) or *seh$_a$l.

The shift to agriculture, particularly cereals, frequently necessitated Neolithic and later populations acquiring salt directly when their diet no longer contained sufficient animal products to maintain the nutritional requirement of salt. The linguistic evidence indicates the existence of a PIE word for 'salt' which comes as little surprise given the other evidence for an agricultural economy. Nevertheless, the word has been regarded by nineteenth and early twentieth century authors as an important cultural marker of the early Indo-Europeans and a key to the location of the IE homeland. Historically, considerable debate concerned the date at which the 'salt' word entered the PIE vocabulary. Before Tocharian or even after the discovery of the Tocharian cognates when Tocharian could still be treated as a "European" language because of the number of isoglosses shared with the IE languages of Europe, the word for 'salt' was treated by some as a European term and explanation for its absence in Indo-Iranian was required. Some sought to use it to reinforce the idea that the earliest Indo-Europeans were primarily pastoralists and, living primarily off a meat diet, did not require salt additional to what they were ingesting in the form of flesh. Hence the absence of the 'salt' word was regarded as further support for a steppe homeland and it was presumed that the Europeans had innovated. The *a*-vocalism, commonly reconstructed for this word, also enhanced the notion that 'salt' may have been borrowed from a non-IE language. Alternatively, even before the full extent of the word's distribution was known, linguists such as Herman Hirt emphasized that the archaic declension class of the word also indicated that it was of PIE antiquity and not a later loan word. The current evidence suggests a straightforward PIE status for the term.

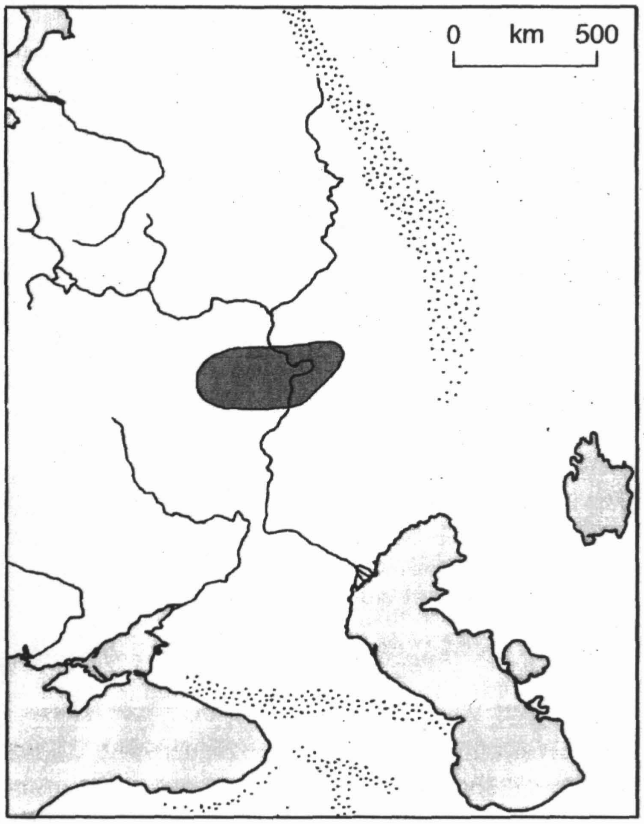
Salt has also been employed in attempts to locate the IE homeland. There is an obvious association between the word for 'salt' and that for 'sea', e.g., the Welsh, Latin, Greek, and Old Indic forms cited all mean 'sea' while the related OCS *slanŭ* means 'sea water'. In Schrader's *Reallexikon* the only sources of salt admitted are the Aral, Caspian and Black seas (the Baltic Sea is specifically excluded) and with the harsh environment surrounding the first two lakes, only the Black Sea seemed to provide a likely candidate for the source of the earliest PIE word for 'salt'. Such an argument could then be used to support the notion that the homeland lay in the Pontic region which would provide support for the "Kurgan theory" of IE origins. While a Pontic origin provides a convenient environment for PIE 'salt' it is hardly the only explanation as prehistoric salt was by no means limited to a handful of sources. Salt brines and springs (with salt in the bedrock) were also widely exploited in the prehistoric period, especially in those areas where natural temperatures did not provide an easy means of extraction from saline lakes or seas. Concrete evidence for salt-winning, for example, is known from Poland during the later Neolithic period and the proximity of Neolithic settlements to naturally occurring sources of salt across Europe makes it difficult to employ salt as a geographic marker of the earliest Indo-Europeans. Obviously, the Mediterranean provided a potential source while Anatolia, another of today's putative homelands, contained the ancient Halys (modern Kızıl Irmak) river which Strabo (12, 3, 12) informs us gained its name from nearby salt springs. It is, therefore, at least theoretically possible to accommodate almost any solution to the IE homeland problem with the existence of a PIE 'salt'.

See also SEA. [R.S.P.B., J.P.M.]

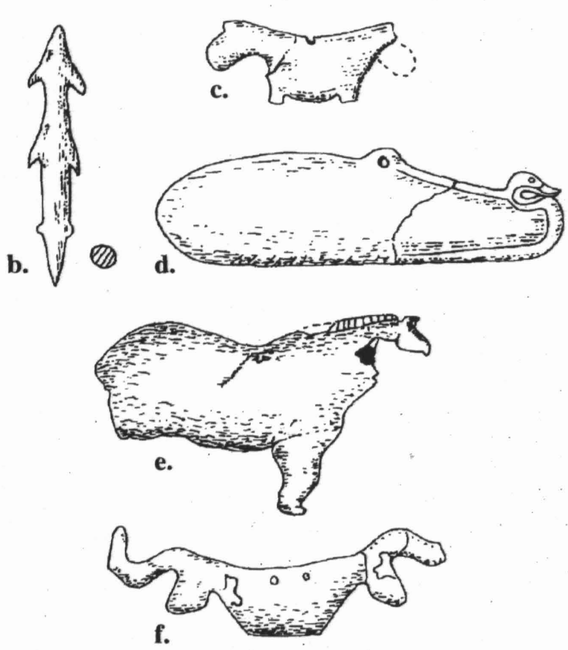
SAMARA CULTURE

Middle Volga Copper Age (*c* fifth millennium BC) culture that preceded the Khvalynsk culture. It is best known from the cemetery at Sezzheye which mirrors many of the practices of the more westerly Dnieper-Donets culture, i.e., flat graves, body in extended position, ocher, ornaments fashioned from animal teeth, boar tusk, shell, etc. Among the ornaments were several depicting horses, cattle and ducks. The finding of horse skulls and bones in the overburden of the cemetery may derive from rituals involving the horse although it is uncertain whether it was domesticated. Within the model of the "Kurgan theory", the Samara culture provides a convenient contact zone with the more northerly forest cultures who may have spoken Uralic languages.

See also DNIEPER-DONETS CULTURE; KHVALYNSK CULTURE. [J.P.M.]



Samara a. Distribution of the Samara culture.



Samara b. Harpoon; c. Double-horse figure; d. Horse-head? figure with duck; e. Horse figure; f. Double bull figure.

SAME

***somós** 'same'. [*IEW* 904 (**som-*); Wat 57 (**sem-*); GI 741 (**se/om-*); Buck 12.91, 15.77; BK 184 (**sam-/*səm-*)]. OIr *-som* 'self; that one', Wels *hwn* (< **sondo* < **som-dhe*) 'this (one)', ON *samr* 'the same one', *sami* 'same', *sem* (adv.) 'just as', OE *same* (adv.) 'same' (> NE *same*), OHG *sama* ~ *samo* 'like, in the same way', Goth *sama* 'the same one', OCS *samŭ* 'himself', Grk *ὁμός* 'similar, same', Arm *omn* 'some, certain, any', Hit *sanai-* (if not Akkadogram *ŠA-NI-I*) 'one and the same, a single one', Av *hama-* 'same', OInd *samá-* 'equal, like, same', TochAB *sam* 'like, even' (whose exact morphological and phonological shape is difficult); in compounds we have: ON *sam-feðra*, Grk *ὁμοπάτωρ*, Arm *hama-hayr* (with first element borrowed from Iranian), OPers *hama-pitar-*, TochA *ṣoma-pācär* 'having the same father'; with an **-l-* derivative: OIr *samail* 'likeness', Wels *hafal* 'similar, alike', Lat *similis* (< **semili-*) 'similar' (cf. *semel* 'once'). There is variability here in the vocalism which has led some to suggest alternative forms for PIE, such as $*somh_xos$ (PIE **somós* should have given Av **hāma-*, OInd **sāmá-* while the attested forms could come from PIE **semós*). Nevertheless, the broad attestation and the common compound formation both indicate PIE status. From **sem-* 'one (together)'.

See also Numerals (One); Some. [C.F.J., J.C.S.]

SAND

?*pē(n)s- 'dust'. [*IEW* 824 (**pē(n)s-*)]. OCS *pěsŭkŭ* 'dust', SC *pijèsak* 'dust', Av *pąsnu-* 'dust', OInd *pāṃsú-* 'crumbling soil, sand, dust'. The Indo-Iranian form may have been **pām/nsnu-* while the Slavic forms lack a nasal. The Slavic accentuation points to **ē* and not $*eh_1$. The long **ē* of **pēns-* points to a root noun. Highly questionable is Hit *passila-* 'gravel'.

$?*samh_xdhos$ 'sand'. [*IEW* 146 (**bhes-*); Wat 8 (**bhes-*); Buck 1.215]. Lat *sabulum* 'sand', *?saburra* 'sand in a ship as ballast', ON *sandr* 'sand', NE (dial.) *samel* 'sand bottom', OHG *sant* 'sand', MHG *sant* ~ *sampt* 'sand', Grk *ἄμαθος* 'sand'. The Greek form cannot be separated from *ψάμαθος* and *ψάμμος* 'sand' while the MHG *sampt* can hardly represent an old variant and, even if it is one, it can hardly be an alternative development of a PIE form. A reconstruction along the lines of $*samh_adhos$ is impossible and the *a* vocalism suggests a non-IE status for the word. This is even more evident if Lat *sabulum* is regarded cognate. The status of Arm *awaz* 'sand' is unclear.

See also Rub. [R.S.P.B.]

SAP

$*sok^wós$ 'sap, resin'. [*IEW* 1044 ($*s(u̯)eku̯o-s$); Wat 68 ($*s(w)ok^wo-$); GI 106]. OPrus *sackis* 'resin', Lith *sakaĩ* (pl.) 'resin', Latv *svaka* (with secondary *-v-*) (pl.) 'resin, gum', OCS *sokŭ* 'sap, resin', Rus *sok* 'juice, sap; sapwood', Alb *gjak* 'blood', Grk *ὀπός* 'sap, resin', TochA *saku* 'pus', TochB *sekwe* 'pus'. Lat *sūcus* 'juice, moisture, sap, liquid', if it belongs here, has been influenced in its form by *sūgere* 'suck'. A large set of forms constitute an etymological family on the basis of gross

similarity in sound and shared meaning of plant or animal fluid. Widespread and old in IE. The Greek form, incidentally, is the source for the NE *opium* (< ὄπιον 'poppy sap'). Attempts have been made to associate this word with Proto-Uralic **sikse* 'Siberian pine'.

***$g^{w}ih_{3}$u̯o-** 'pitch'. [*IEW* 482 (*g^{u}ī̯u-)]. OIr *bī* 'tree pitch', Rus *živicá* 'soft resin', Arm *kiv* 'tree pitch, mastic'. Probably a younger word than **sok^{w}ós*, and one perhaps limited to the west and center of the IE world. Presumably a derivative of **g^{w}i̯eh$_{3}$-* 'live' as the tree's 'living matter'.

***g^{w}étu** 'pitch'. [*IEW* 480 (*g^{u}et-); Wat 25 (*g^{w}et-)]. Lat *bitūmen* 'mineral pitch, bitumen', OE *cwidu* ~ *cwudu* 'mastic', OHG *kuti* 'glue, putty', OInd *játu* 'lac, gum'. Compare with new lengthened-grade ON *kvāða* 'tree pitch'; also Wels *bedw* (< *g^{w}etu̯eh$_{a}$-) 'birch' and Lat (< Gaul) *betulla* 'birch' as the 'sap-tree' from the use of birch-sap as a food or as a glue. In prehistoric Europe, the most frequent adhesive for sticking arrows to their shafts or stone (or metal) axes within their hafts was birch gum. Another old word, without any known deeper etymological connections, within PIE.

***pik-** 'pitch'. [cf. *IEW* 794 (*peig- ~ *peik-); Wat 51 (*pik-); GI 543 (*$p^{h}ik^{h}$-); Fried 31–38]. Lat *pix* ~ *picea* 'tar, pitch', OCS *picĭlŭ* 'pitch, tar', Grk πίσσα (< *pikih$_{a}$-) 'tar, resin'. Compare Lat *picea* 'spruce' and further Lith *pušìs* 'spruce, pine', Grk πεύκη 'pine'. The words for 'pitch' and Lat *picea* 'spruce (*Abies abies*)' all show the same sporadic change of **pu-* to **pi-* seen in **pulos* ~ **pilos* 'a hair'. A fairly widespread word of the west and center of the IE world.

?*sap- 'sap'. [*IEW* 880 (*sap- ~ *sab-); Wat 55 (*sab-)]. Lat *sapa* 'must, new wine boiled thick', ON *safi* 'sap', OHG *saf* 'sap'. A variant **sab-* definitely appears in OE *sæp* 'sap' (> NE *sap*) and may occur in OInd *sabar-dhúk* 'yielding nectar or milk' and Illyrian *sabaium* 'beer' (? > Italian *zabaglione* 'a frothy dessert'). If all these words belong together, we can reconstruct a widespread PIE lexical item.

See also PINE; PLANTS; TREE. [P.F., D.Q.A.]

SATISFY

***seh$_{2}$(i)-** 'satisfy, fill up'. [*IEW* 876 (*sā-); Wat 55 (*sā-)]. Grk ἆμεναι 'satisfy oneself', Arm *hač* 'contented', Hit *sāh-* 'stuff full, clog up', OInd *a-si-n-vá-* 'un-satisfied', TochA *si-* 'be satisfied', TochB *soy-* (with difficult vowel) 'be satisfied'. Cf. the widespread derivatives: (1) **séh$_{2}$tis* (gen. **sh̥$_{2}$téis*) 'satisfaction': OIr *saith* 'satisfaction', Lat *satis* 'enough', Lith *sótis* 'satiety'; (2) **sh̥$_{2}$tós* 'satisfied': ON *saðr* 'enough', OE *sæd* 'satisfied' (> NE *sad*, via 'satisfied' > 'heavy'), OHG *sat* 'satisfied', Goth *saþs* 'satisfied', *gasōþjan* 'satiate', OCS *sytŭ* (with unexplained first vowel) 'satisfied', Grk ἄατος (< *n̥-sh̥$_{2}$-to-) 'insatiable'. Widespread and old in IE.

***terp-** 'take (to oneself), satisfy oneself, enjoy'. [*IEW* 1077–1078 (*terp-); Wat 70 (*terp-); BK 94 (*t[^{h}]ir-ap[^{h}]-/ *t[^{h}]er-ap[^{h}]-)]. ON *þurfa* (pres. *þarf*) 'need, lack', OE *þurfan* (pres. *þearf*) 'need, lack', OHG *durfan* (pres. *darf*) 'need, lack', *durft* 'necessary', *durftig* 'poor', Goth *þaúrban* (pres. *þarf*) 'need; must', *þarbs* 'necessary', *þarba* 'necessity', *þaúrfts* 'necessary, useful' (the Germanic verbs reflect an old perfect 'have enjoyed' > 'still longing for', whence 'still have the appetite for; need'), OPrus *enterpo* 'use', Lith *tarpstù* 'flourish', Latv *tẽrpinât* 'better', OCS *trŭpěti* 'suffer, endure', Grk τέρπω 'satisfy', τέρπομαι 'satisfy oneself', Av *trəfya-* ~ *tarəp-* 'steal', OInd *tŕ̥pyati* 'be sated', *paśu-tŕ̥p-* 'cattle-stealing', TochAB *tsärw-* 'be confident, rejoice'. Cf. the widespread derivative **térptis* (gen. **tr̥ptéis*) 'satisfaction, enjoyment': ON *þurft* 'need', OHG *durft* 'need', Goth *þaúrfts* 'necessity, need', Grk τέρψις 'satisfaction', OInd *tŕ̥pti-* 'satisfaction'. Widespread and old in IE.

***speh$_{1}$-** 'be satisfied, be filled, thrive' (pres. ***spéh$_{1}$i̯ei** ~ ***spóh$_{1}$i̯ei**). [*IEW* 983–984 (*sp(h)ē(i)-); Wat 63 (*spē-); GI 101]. Lat *spēs* 'hope', OE *spōwan* 'thrive, succeed; profit, avail', OHG *spuon* 'succeed', Lith *spė́ju* 'have free time', Latv *spēju* 'have free time', OCS *spěti* 'be successful, prosper', Hit *ispā(i)-* 'get full, be filled, be satiated, be saturated', *ispiyanu-* 'satiate, saturate', OInd *sphā́yate* 'grows fat', TochB *spāw-* '± spread out'. Widespread and old in IE. Compare also **sph̥$_{1}$rós* '± fat, rich'.

See also ABUNDANT; FAVOR; PLEASE; PROSPER. [D.Q.A.]

SCATTER

***sper-** 'strew, sow'. [*IEW* 993–995 (*(s)p(h)er-); Wat 63–64 (*sper-); Buck 9.34]. OIr *sreb* (< *spre-bho-) 'stream', OHG *sprāt* 'scattering', Alb *farë* (< *sporeh$_{a}$-) 'seed', Grk σπείρω 'strew, sow, sprinkle', σπέρμα ~ σπορά 'seed', Hit *ispāri* ~ *isparrizzi* 'spreads, strews, scatters, shatters', *isparnu-* 'spread, spray, scatter'. Reasonably widespread; certainly old in IE.

***(s)ked-** 'scatter' (pres. ***(s)k$_{e}$dnéh$_{a}$ti**). [*IEW* 918–919 (*(s)k(h)ed-); Wat 59 (*sked-)]. ME *scateren* 'scatter' (> NE *scatter*), Lith *kedė́ti* 'burst', Grk σκίδνημι ~ σκεδάννυμι 'scatter, strew, sprinkle', TochB *kätnā-* 'scatter, strew; sow'. Sufficiently widespread to be guaranteed of PIE status.

See also SOW; SPREAD. [D.Q.A.]

SCHLEICHER'S TALE

"Schleicher's tale" is the name given to an artificial fable created by August Schleicher in 1868 to illustrate the types of results one might achieve through the comparative method in linguistics. The contents of the fable, it should be noted, were in no way an attempt to reconstruct a real PIE text; the story was entirely Schleicher's creation and he was merely trying to display his notion of what a connected piece of PIE discourse might look like. The history of this tale provides a convenient summary of the changes in the appearance of reconstructed PIE over the past century and a half.

Schleicher's version (1868) of the tale:

Avis, jasmin varnā na ā ast, dadarka akvams, tam, vāgham garum vaghantam, tam, bhāram magham, tam, manum āku bharantam. Avis akvabhjams ā vavakat: kard aghnutai mai vidanti manum akvams agantam.

Akvāsas ā vavakant: krudhi avai, kard aghnutai

vividvant-svas: manus patis varnām avisāms karnauti svabhjam gharmam vastram avibhjams ka varnā na asti. Tat kukruvants avis agram ā bhugat.

"A sheep that had no wool saw horses—one pulling a heavy wagon, another one a great load, and another swiftly carrying a man. The sheep said to the horses: 'it pains my heart seeing a man driving horses'.

The horses said to the sheep: 'listen sheep! it pains our hearts seeing man, the master, making a warm garment for himself from the wool of a sheep when the sheep has no wool for itself'.

On hearing this the sheep fled into the plain."

Some seventy years later, Herman Hirt took the same (pseudo-)text and rewrote it to reflect his understanding, and the understanding by and large of his contemporaries, of PIE phonology. Hirt's (1939) version:

owis, jesmin wьlənā ne ēst, dedork'e ek'wons, tom, wogh'om g^{w}ьrum weghontm̥, tom, bhorom megam, tom, gh'ьmonm̥, ōk'u bherontm̥. owis ek'womos ewьwek^{w}et: k'ērd aghnutai moi widontei gh'ьmonm̥ ek'wons ag'ontm̥. ek'wōses ewьwek^{w}ont: k'ludhi, owei!, k'ērd aghnutai vidontmos: gh'ьmō, pótis, wьlənām owjôm k^{w}r̥neuti sebhoi gh^{w}ermom westrom; owimos-k^{w}e wьlənā ne esti. tod k'ek'ruwos owis ag'rom ebhuget.

A third version was prepared by Winfred Lehmann and Ladislav Zgusta in 1978:

G^{w}ərēi owis, k^{w}esyo wl̥hnā ne ēst, ek̂wons espek̂et, oinom ghe g^{w}r̥um woĝhom weĝhontm̥ oinomk^{w}e meĝam bhorom, oinomk^{w}e ĝhm̥enm̥ ōk̂u bherontm̥.

Owis nu ek̂wobh(y)os (ek̂womos) ewewk^{w}et: 'k̂ēr aghnutoi moi ek̂wōns aĝontm̥ nerm̥ widn̥tei'.

Ek̂wōs tu ewewk^{w}ont: 'k̂ludhi, owei, k̂ēr ghe aghnutoi n̥smei widn̥tbh(y)os (widn̥tmos): nēr, potis, owiōm r̥ wl̥hnām sebhi g^{w}hermom westrom k^{w}r̥neuti. Neĝhi owiōm wl̥hnā esti'.

Tod k̂ek̂luwōs owis aĝrom ebhuget.

Below is appended a version reflecting the phonological assumptions underlying the reconstructions in this encyclopedia:

G^{w}r̥h$_x$ḗi h$_2$óu̯is, k^{w}ési̯o u̯l̥h$_2$néh$_4$ ne (h$_1$é) est, h$_1$ék̂u̯ons spék̂et, h$_1$oinom ghe g^{w}r̥h$_x$úm u̯óĝhom u̯éĝhontm̥ h$_1$oinom-k^{w}e méĝh$_a$m̥ bhórom, h$_1$oinom-k^{w}e ĝhménm̥ h$_x$ṓk̂u bhérontm̥. h$_2$óu̯is tu h$_1$ek̂u̯oibh(i̯)os u̯euk^{w}ét: 'k̂ḗr h$_a$eghnutór moi h$_1$ék̂u̯ons h$_a$éĝontm̥ h$_a$nérm̥ u̯idn̥tbh(i̯)ós: h$_1$ék̂u̯ōs tu u̯eu̯k^{w}ónt: 'k̂ludhí, h$_2$óu̯ei, k̂ḗr ghe h$_a$eghnutór n̥sméi u̯idn̥tbh(i̯)ós: h$_a$nḗr, pótis, h$_2$éu̯i̯om r̥ u̯l̥h$_2$néh$_a$m sebhi k^{w}r̥méuti nu g^{w}hérmom u̯éstrom néĝhi h$_2$éu̯i̯om u̯l̥h$_2$néh$_a$ h$_1$ésti.' Tód k̂ek̂luu̯ós h$_2$óu̯is h$_a$éĝrom bhugét.

To facilitate comparison of these versions they have been arranged by lines below (with punctuation standardized to ease comparison and misprints have been silently corrected and with a very literal English "translation", one that tries to recapitulate the PIE word-order, added):

1. S *avis, jasmin varnā na ā ast, dadarka akvams,*
   H *owis, jesmin wьlənā ne ēst, dedok'e ek'wons,*
   LZ [*G^{w}ərēi*] *owis, k^{w}esyo wl̥hnā ne ēst, ek̂wons espek̂et,*
   MA [*G^{w}r̥h$_x$ḗi*] *h$_2$óu̯is, k^{w}ési̯o u̯l̥h$_2$néh$_4$ ne (h$_1$é) est, h$_1$ék̂u̯ons spék̂et,*
   NE [On the mountain] (a) sheep, to which wool not was, saw horses

2. S *tam, vāgham garum vaghantam, tam, bhāram magham,*
   H *tom, wogh'om g^{w}ьrum wegh'ontm̥, tom, bhorom megam,*
   LZ *oinom ghe g^{w}r̥um woĝhom weĝhontm̥ oinomk^{w}e meĝam bhorom,*
   MA *h$_1$oinom ghe g^{w}r̥h$_x$úm u̯óĝhom u̯éĝhontm̥ h$_1$oinom-k^{w}e méĝh$_a$m bhórom,*
   NE one, (a) wagon heavy pulling, one, load great,

3. S *tam, manum āku bharantam.*
   H *tom, gh'ьmonm̥, ōk'u bherontm̥.*
   LZ *oinomk^{w}e ĝhm̥enm̥ ōk̂u bherontm̥.*
   MA *h$_1$oinom-k^{w}e ĝhménm̥ h$_x$ṓk̂u bhérontm̥.*
   NE one-and man swiftly carrying

4. S *Avis akvabhjams ā vavakat: kard aghnutai*
   H *owis ek'wonmos ewьwek^{w}et: k'ērd aghnutai*
   LZ *Owis nu ek̂wobh(y)os (ek̂womos) ewewk^{w}et: 'k̂ēr aghnutoi*
   MA *h$_2$óu̯is tu h$_1$ek̂u̯oibh(i̯)os u̯euk^{w}ét: 'k̂ḗr h$_a$eghnutór*
   NE (the) sheep then to the horses said: 'heart is pained

5. S *mai vidanti manum akvams agantam.*
   H *moi widontei gh'ьmonm̥ ek'wons ag'ontm̥.*
   LZ *moi ek̂wōns aĝontm̥ nerm̥ widn̥tei'.*
   MA *moi h$_1$ék̂u̯ons h$_a$éĝontm̥ h$_a$nérm̥ u̯idn̥téi:*
   NE to me horses driving (a) man seeing'

6. S *Akvāsas ā vavakant: krudhi avai,*
   H *ek'wōses ewuwek^{w}ont: k'ludhi, owei!,*
   LZ *Ek̂wōs tu ewewk^{w}ont: 'k̂ludhi, owei,*
   MA *h$_1$ék̂u̯ōs tu u̯euk^{w}ónt: 'k̂ludhí, h$_2$óu̯ei,*
   NE (the) horses then said: 'listen, sheep'

7. S *kard aghnutai vividant-svas:*
   H *k'ērd aghnutoi vidontmos:*
   LZ *k̂ēr ghe aghnutoi n̥smei widn̥tbh(y)os (widn̥tmos):*
   MA *k̂ēr ghe h$_a$eghnutór n̥sméi u̯idn̥tbh(i̯)ós:*
   NE heart is pained to us seeing

8. S *manus patis varnām avisāms*
H *gh'ъmōn, pótis, wъlənām owjôm*
LZ *nēr, potis, owiōm r̥ wl̥hnām sebhi*
MA *h_anḗr, pótis, $h_2$éu̯i̯om r̥ u̯l̥$h_2$néh$_a$m sebhi*
NE man, (the) master, sheep's wool for himself

9. S *karnauti svabhjam gharmam vastram*
H *k^wr̥neuti sebhoi gh^{w}ermom westrom;*
LZ *g^whermom westrom k^wr̥neuti.*
MA *k^wr̥néuti nu g^whérmom u̯éstrom*
NE makes now warm garment

10. S *avibhjams ka varnā na asti.*
H *owimos-k^we wъlənā ne esti.*
LZ *Neĝhi owiōm wl̥hnā esti'.*
MA *néĝhi $h_2$éu̯i̯om u̯l̥$h_2$néh$_a$ $h_1$ésti.'*
NE not to (the) sheep wool is

11. S *Tat kakruvants avis agram ā bhugat.*
H *tod k'ek'lowos owis ag'rom ebhuget.*
LZ *Tod k̂ek̂luwōs owis aĝrom ebhuget.*
MA *Tód k̂ek̂luu̯ṓs $h_2$óu̯is h_aéĝrom bhugét.*
NE this having heard sheep to the plain ran.

Some of the differences among these versions are purely graphic. For instance Schleicher's *k*, Hirt's *k'*, Lehmann and Zgusta's *k* and the *k̂* employed in this volume all reflect the same reconstructed sound which is usually presumed to be some sort of dorsal-palatal or at least fronted dorso-velar stop. Similarly, Schleicher's and Hirt's *j*, Lehmann and Zgusta's *y* and this volume's *i̯* all represent the same voiced lamino-palatal glide. In these cases the only difference is the choice of symbol to represent the sound. Other differences are more substantive. Schleicher's *a* for example is used where the other versions have *a*, *e*, or *o*. In this Schleicher reflects the situation found in Old Indic. The other versions represent a better understanding of PIE phonology, an understanding which sees OInd *a* as reflecting the merger of original **a*, **e*, and **o* which are preserved, more or less as such, by Greek and Latin. Similarly Schleicher's *r* (where the other versions have both *r* and *l*) reflects an Indo-Iranian model of PIE. It has since become clear that both *r* and *l* occurred in Proto-Indo-European (as they continue to do in all stocks except Indic and Iranian) and that the Indo-Iranian *r* represents a merger of PIE *r* and *l*.

In general the earlier the version, the more dependent it was on Old Indic as a model. Later versions have the benefit of a wider array of evidence from other IE languages, including Hittite and the other languages of the Anatolian stock and the two Tocharian languages, which were both unknown and unexpected in Schleicher's day. The later reconstructions all evince increasing awareness that, while Old Indic is a very conservative representative of the PIE linguistic tradition, it does not in all cases preserve the PIE situation. Hirt's version, in distinguishing *e*, *a*, *o* and *r* and *l*, shows a more balanced phonological reconstruction. Over-reliance on Indic for reconstructing PIE morphology also has its pitfalls. Recent work, for instance, strongly suggests that reconstructing PIE with the suffix **-oi* certain "middle verbs" (those which were typically passive or reflexive rather than active) and the prefix *h_1e-* on any past tense verbs, both taken over from the Old Indic model (and in both cases supported by the situation in Greek) are actually innovations in a late state of dialectally divergent PIE in those dialects that subsequently gave rise to Indo-Iranian and Greek. They were not originally characteristic of PIE as a whole. The older situation had the suffix *-r* on middle verbs and the prefix **h_1e-* (actually originally a separate word) was optional and used to reinforce the sense of past time, perhaps on the first past tense verb of a discourse (as with our version) to help "set the scene" as it were.

The biggest difference between the most recent reconstructions and the earlier ones is the presence of the various laryngeals, whose existence was first theorized by Ferdinand de Saussure in 1879 and later confirmed by the realization that some of them were at least preserved in Hittite. The Lehmann-Zgusta reconstruction has one (their *h* = our *h_2*) and in their discussion of their version they are explicit in assuming other laryngeals at an earlier stage of PIE. Analysis of the evidence leads us to assume that all the reconstructible laryngeals persisted late into the history of PIE—indeed into the histories of the individual stocks (**h_2* and **h_3* both preserved as *h* in Hittite and **h_4* as *h* in Albanian). The initial **h_1* of some of our reconstructions are present because it is assumed by many linguists that PIE was a language that did not permit initial vowels in words. Where it looked to prior linguists, and still does to other linguists today, that PIE had an initial vowel, these linguists assume an initial **h_1* has been lost without a trace everywhere. Such an assumption is not susceptible, even in theory, to absolute proof. Another way in which the latter two reconstructions differ from earlier ones is in the greater use of syntactic particles (*ghe*, *r̥*, *nu*, etc.) which Proto-Indo-European clearly used as ways of signalling various features of discourse, emphasis, contrast, topicalization, resumption, etc. Finally, another difference between our reconstruction and the previous ones is the addition of accent marks. All the previous investigators would have been in agreement that Proto-Indo-European distinguished accented from unaccented syllables, so no theoretical difference is manifested in the accent marks, only an attempt on our part to be maximally explicit about this feature of PIE phonology.

Progress in our ability to reconstruct PIE (or any other language) is not always uni-directional. The Lehmann-Zgusta version differs from the previous ones in assuming that the rules of PIE syntax *required* the order subject-object-verb rather than merely favoring that order (as in the previous two versions). Our reconstruction, on the other hand, assumes that the verb-final order was the unmarked one, i.e., the most frequent and semantically unemphatic one, but that other orders were possible. Particularly there were many sentences with the verb in the initial position as a mark of emphasis.

A different "PIE tale" has been produced recently, on the

basis of a passage in the Old Indic *Aitareya Brāhmaṇa* (7:33:1). S. K. Sen asked a number of contemporary Indo-Europeanists to reconstruct the PIE "parent" of the Old Indic passage. We present below a representative example of those reconstructions (the one below is mostly E. P. Hamp's, though with the symbols adjusted to the usage of this *Encyclopedia* and with a couple of lexical changes to bring it into closer conformity with the other reconstructions).

to rḗḱs éh_1*est. so n̥putlos é*h_1*est. so rḗḱs sú*h_x*num*
éu̯el(e)t.
só tós(i̯)o ĝheutérm̥ (e)pr̥ḱsḱet;
súh_x*nus moi ĝn̥*h_1*i̯otām!*
so ĝheutḗr tom rḗĝm̥ éu̯euk^w*et:*
ih_x*gesu̯o deiu̯óm u̯érunom.*
so rḗḱs deiu̯óm u̯erunom h_4*úpo-sesore nu deiu̯óm*
(é)ih_x*geto:*
ḱludhí moi ph̥$_a$*ter u̯erune!*
deiu̯ós u̯érunos km̥ta diu̯ós ég^w*e*h_a*t.*
k^w*íd u̯elsi?*
u̯élmi súh_x*num.*
tód h_1*éstu, u̯éuk*^{w}*et loukós deiu̯os u̯erunos.*
rēĝós pótnih_a *sú*h_x*num gegon*h_1*e.*

"Once there was a king. He childless was. This king a son desired.
He his priest (pourer) asked:
(let) son to me be born!
The priest the king said:
'pray to the god Varuṇa'.
The king to the god Varuṇa approached now to the god to pray.
'Hear me father Varuṇa!'
The god Varuṇa down from heaven came.
'What do you wish?'
'I want a son.'
'(Let) this be (so),' said the bright god Varuṇa.
The king's lady a son bore".

See also **Proto-Indo-European**; **Reconstruction**. [D.Q.A.]

Further Readings

Lehmann, W. P. and L. Zgusta (1979) Schleicher's tale after a century, in *Festschrift for Oswald Szemerényi on the Occasion of his 65th Birthday*, ed. B. Brogyanyi, Amsterdam, Benjamins, 455–466.
Sen, S. K. (1994) Proto-Indo-European: a multiangular view. *JIES* 22, 67–90.

SCRAPE

red- 'gnaw, scrape'. [*IEW* 854 (**rēd-*); Wat 53–54 (**rēd-*)]. Lat *rōdō* 'gnaw', *rōstrum* 'beak, ship's prow', OE *ræt* 'rat' (< *'gnawer' > NE *rat*), OHG *rāzi* 'sharp (of taste or sound), wild, biting', MHG *ratzen* 'rat', MPers *randītan* 'scrape, smooth', OInd *rádati* 'bites, gnaws, cuts, makes way, opens'. The geographical distribution of this word, found only on the eastern and western margins of the IE world, strongly suggests PIE status. Connected in some fashion are possibly Wels *rhathu* 'scrape, smooth, file', Lat *rādō* 'scrape, scratch, shave, smooth off', *rāstrum* 'rake', *rādula* 'scraper', though they may reflect an Italo-Celtic **ras-de/o-*.

skebh- 'scratch, shave' (pres. ***skóbhei***). [*IEW* 931–933 (**(s)kĕp-*); Wat 59 (**skep-* ~ **kep-*)]. Lat *scabō* 'shave, scratch, scrape', *scaber* 'scabrous', *scobis* 'scrapings', *scobīna* 'file', ON *skafa* 'shave', OE *scafan* 'shave' (> NE *shave*), OHG *schaben* 'shave', Goth *skaban* 'shear', Lith *skambùs* 'pluck', *skabùs* 'sharp', *skōbti* 'pull, pluck, gather', Latv *skabīt* 'hew off', *skabrs* 'sharp', OCS *skoblĭ* 'scraping knife'. A word of the northwest of the IE world.

See also **Cut**; **Tear**. [D.Q.A.]

SEA

móri 'sea'. [*IEW* 748 (**mori* ~ **mōri*); Wat 43 (**mori-*); Gl 580 (**mor-/*mar-*); Buck 1.32; BK 530 (**mar-/*mǝr-*)]. OIr *muir* 'sea', Wels *môr* 'sea', Lat *mare* (< **mori*) 'sea', ON *marr* 'sea, lake', OE *mere* 'sea, lake' (> NE *mere*), OHG *mari* (gen. *meres*) 'sea', Goth *mari-saiws* 'sea', *marei* 'sea', OPrus *mary* (< **marē*) 'harbor', Lith *mãrė* (< **moriā*) 'sea', OCS *morje* 'sea', Oss *mal* (< **mori*) 'deep standing water'. If Hit *marmar(r)a-* 'swamp, body of water overgrown with vegetation' is a reduplicated derivative of **móri*, then the PIE origin of the latter is virtually assured. Lat *mare* has *ma* < **mo*. The discovery of the Ossetic cognate extends the distribution beyond the European languages and helps confirm a PIE origin for the word unless it is a loan. More dubious is Arm *mawr* (< **maru-*?) 'moor'. Morphologically **móri* (gen. **mr-éi-s* or **mér-i-s*?) is impeccable. It is uncertain whether OE *mōr* 'morass, swamp' (> NE *moor*), OHG *muor* 'swamp' represents **mōro-* with lengthened grade. Suggestions that the word derives from **mer-* 'be bright' are purely guesswork.

The precise semantic field of **móri* has long been regarded as diagnostic for locating the IE homeland. As an (unproductive) neuter *i*-stem, the word was considered of high antiquity despite the fact that it was generally listed without any Indo-Iranian (or Tocharian) cognate. On the other hand, only Celtic, Italic and Slavic exhibited the meaning 'sea' in the strict sense and other stocks, particularly Germanic, suggested an inland freshwater lake or at least something other than an open salt water sea with tides. This inland orientation was further supported by the fact that those stocks actually living adjacent to an open sea (e.g., the Greeks, the Germans and the Indo-Aryans) had borrowed words for the body of water from non-IE sources, e.g., Grk **θάλαττα** 'sea', OE *sǣ* 'sea' (> NE *sea*), Goth *saiws* 'sea'. All of this suggested that the primary meaning had been some form of 'standing water', preferably an inland lake or sea, and the meaning '(salt water) sea' was secondary. Once this line of argument was adopted, linguists directed their attention to determining *which* of the bodies of water the Proto-Indo-Europeans had specifically in mind and candidates ranged from the Baltic Sea to the Black, Caspian and Aral seas. Generally, the identification was by the process

of exclusion on the basis of other arguments, e.g., those supporting a steppe homeland suggested that the Indo-Europeans could not have originally been located on the shores of the Baltic Sea since Germanic had borrowed the *sea*-word for this body of water while those who supported a north European homeland excluded the Black Sea and the other southern inland lakes since the IE vocabulary possessed a word for 'eel', a fish unknown to those waters (though it turns out that the Black Sea was incorrectly excluded).

While the semantic development is still generally accepted, i.e., 'lake' > 'sea' (cf. NHG *see* 'lake' but NDutch *zee* 'sea'), there are no grounds to know whether the early Indo-Europeans had a specific inland sea or lake in mind and if so, which body of water it was; **móri* offers little if any clue as to the location of the IE homeland.

See also LAKE; SALT. [R.S.P.B., J.P.M.]

SEA GOD

?*trih$_a$tōn 'watery (one?)'. [*IEW* 1096 (**triị̯ato-*)]. OIr *trïath* (gen. *trethan*) 'sea', Grk *Τρῑτων* (son of Poseidōn). The phonological and semantic similarity of these two words is seductive but problematic since they reflect only similarity on both fronts, not identity. The Greek word might reflect **trih$_a$tōn*, while the Old Irish might reflect **trih$_a$etōn*. However, it is difficult to relate the Old Irish genitive with such a form (since it requires a short **-i-*) or any other possible antecedent of the nominative. Intriguing but doubtful.

See also FIRE IN WATER [D.Q.A.]

SEASONS

****u̯ésr̥*** 'spring'. [*IEW* 1174 (**u̯es-r̥*); Wat 78 (**wesr̥*); GI 596 (**wes-r̥/n̥-*); Buck 14.75]. OIr *errach* 'spring', OWels *guiannuin* 'spring', Lat *vēr* 'spring', Lith *vãsara* 'summer', Latv *vasara* 'summer', OCS *vesna* 'spring', Grk *(ϝ)έαρ* 'spring', Arm *garun* 'spring', Av *vaŋri* 'in spring', OInd *vasantá-* 'spring'.

This word is widely distributed and as a heteroclitic represents an archaic construction; both considerations suggest good PIE status although there is some semantic deviation between Baltic and the other stocks.

****sem-*** 'summer'. [*IEW* 905 (**sem-*); Wat 57 (**sem-*); Buck 14.76; BK 166 (**s^{y}am-/*s^{y}əm-*)]. OIr *sam* 'summer', Wels *haf* 'summer', ON *sumar* 'summer', OE *sumor* 'summer' (> NE *summer*), OHG *sumar* 'summer' (Gmc < **sm̥m-aro-*), Arm *am* 'year', Av *ham-* 'summer', OInd *sámā* 'season, year', TochA *ṣme* (< **semeh$_a$-h$_1$en-*) 'summer', TochB *ṣmāye* 'summer-'. Its wide geographical distribution would seem to guarantee its antiquity in PIE.

****h$_1$es-en- ~ *h$_1$os-en- ~ *h$_1$os-r̥-*** 'autumn'. [*IEW* 343 (**es-en-*); Wat 17 (**esen-*); GI 596–597 (**(e)s-en-*); Buck 14.77; BK 421 (**as-/*əs-*)]. ON *ǫnn* 'autumn', OHG *aran* 'harvest', Goth *asans* 'summer, harvest time', OPrus *assanis* 'harvest', OCS *jesenĭ* 'autumn', Rus *ósenĭ* 'autumn', Grk (Homeric) *ὀπώρη* (< **ὀπ-* 'after' + *ὀ(σ)αρᾱ*[?] 'summer') 'end of summer, harvest time', Hit *zena-*, *zenant-* 'autumn'.

The word for 'autumn' has traditionally been regarded as the weakest attested of the seasons in terms of cognates across the different IE stocks. Frequently, the basic meanings in the different stocks vary between 'autumn' and 'summer' or the word is connected with 'harvest', e.g., OE *hærfest* 'before winter, harvest' (> NE *harvest*), Wels *cynhaeaf* 'preceding winter', and Grk *ὀπώρη* 'after summer'. On such evidence it was sometimes suggested that the "absence" of a PIE term for 'autumn' indicates that the early Indo-Europeans did not recognize a harvest time and, consequently, did not practice agriculture but were purely pastoralists. In actual fact, the evidence for a PIE 'autumn' is not so weak as sometimes suggested. With a common root represented in Germanic, Baltic, Slavic, Greek and Hittite, the term for 'autumn' seems a good candidate for IE status, a conclusion strengthened by the probable antiquity of its appearance as an *r/n*-stem. On the other hand, the term may not necessarily be co-ordinate with the other seasonal terms, as some suggest that the Indo-European year consisted conceptually of only three seasons—winter, spring and summer. The end of summer, as indicated in the early Irish seasonal festivals, was marked by an out-of-season period and festival, *samain*, which reflected the junction between the end of the old year and the beginning of the new year. The junction also marked a period when the otherworld might most closely impress itself on the world of human society. It is at least possible, given the range of meanings associated with the 'autumn' word, that the term did not originally refer to a three month season but rather a much shorter juncture between the old and new years.

It should be emphasized that even if one accepts the absence of a reconstructed PIE term for 'autumn', this is unlikely to shed any light on the nature of the earlier subsistence economy of the Indo-Europeans. The Roman writer Tacitus claimed that the ancient Germans themselves lacked a word for 'autumn' yet all archaeological evidence indicates that they were very much engaged in both agriculture and stock-breeding. And even agriculturalists such as the ancient Egyptians operated with a civil calendar that recognized a tripartite rather than quadripartite division of the year.

****ĝheim-***, ****ĝhi̯ōm-*** 'winter, snow'. [*IEW* 425 (**ĝhei-*); Wat 21 (**ghei-*); cf. GI 750 (**g^{h}eim-*); Buck 14.74]. Gaul *Giamonios* (name of a winter month), Lat *hiems* 'winter', OPrus *semo* 'winter', Lith *žiemà* 'winter', Latv *ziema* 'winter', OCS *zima* 'winter', Rus *zimá* 'winter', Alb *dimër* 'winter', Grk *χεῖμα ~ χειμών* 'winter', Arm *jiwn* 'snow', Hit *giemi* 'in winter', *gimmant-* 'winter', *giman(i)ye-* 'spend the winter', Av *zyā̊* 'winter', OInd *héman* 'in winter', *hemantá-* 'in winter', TochA *śárme* (< **śämre*) 'winter', TochB *śämprāye* 'winter-'. This ancient IE word, clearly reconstructible with the meaning 'winter', is distributed widely throughout the descendant languages. Its antiquity is guaranteed not only by its distribution, but also by its semantic homogeneity and its status as an *r/n* stem, seen in Grk *χειμών* 'winter', *χίμαρος* 'goat' (with zero-grade; meaning < *'yearling' < *'one who has survived a winter').

See also HARVEST; TIME; YEAR. [P.B.; J.P.M.]

SEAT

sedes- 'seat'. [*IEW* 885 (**sed-*); Wat 56 (**sed-*); Buck 7.43]. Wels *hedd* 'rest', *sedd* 'seat', Grk *ἕδος* 'seat', Av *hadiš-* 'home', OInd *sádas-* 'place'. From **sed-* 'sit'. Although distributed on the margins of the IE world, this nominalization may have been independent in those IE stocks where it is found.

sedlom* ~ **sedros (masc.) 'seat, chair-like object'. [*IEW* 885–886 (**sed-lo-m*); Wat 56 (**sed-*); Buck 7.43]. Gaul *sedlon* 'seat', Lat *sella* ~ *sedīle* 'seat', ON *setr* 'seat', OE *setl* 'seat', OHG *sezzal* 'seat', Goth *sitls* 'seat', OCS *sědalo* 'seat', Grk *ἕδρᾱ* (< **sed-reh₂*) 'seat', Arm *etl* 'seat'. From **sed-* 'sit'. Words of the west and center of the IE world.

Furniture constructed from organic material is extremely rare in the archaeological record but the existence of clay figurines fashioned in the seated position are known from both southwest Asia and southeast Europe from the early Neolithic. In the Balkans there are also known miniature clay models of chairs and even plastered seats in what are presumed to have been shrines. The technology of chair-building may have been far more ubiquitous than the existing archaeological evidence even though the linguistic evidence does not require the reconstruction of a PIE 'chair'.

See also SIT. [A.D.V.]

SEE

derk̂- 'glance at'. [*IEW* 213 (**derk̂-*); Wat 12 (**derk-*); GI 186, 193 (**t'erk̂ʰ-*); Buck 15.51, 52; BK 180 (**c'ar-/*c'ər-*)]. OIr *ad-con-darc* 'have seen', *drech* 'face', OE *torht* 'bright, clear', OHG *zoraht* 'bright, clear', Goth *ga-tarhjan* 'distinguish, note', Alb *dritë* (< **dr̥k̂ti-*) 'light', Grk *δέρκομαι* 'see', *δέδορκα* 'seen', *δράκος* 'eye', perhaps *δράκων* 'dragon' (from its baleful glance?), *δέργμα* 'glance', Av *dādarəsa* 'have seen', OInd *dadárśa* 'have seen', *dṛ́ṣṭi-* 'sight'. Absent in Hittite and Tocharian but otherwise widespread and certainly old in IE.

h₃ekʷ- 'see'. [*IEW* 775–777 (**okᵘ̯-*); Wat 45-46 (**okʷ-*); cf. GI 688 (**še/okʰᵒ-*); Buck 15.51]. Grk *ὄπωπα* 'have seen', *ὀπῑπεύω* 'stare at', OInd *íkṣate* 'sees'. As a verb this root is attested only in Greek and Old Indic; however, its derivative **h₃ékʷ* 'eye' is practically universal in IE.

leuk- 'see'. [*IEW* 689 (**leuk-*); cf. Wat 37 (**leuk-*); cf. GI 779 (**l(e)ukʰ-*); Buck 15.51; BK 580 (**law-/*ləw-*)]. Wels *amlwg* 'evident', OPrus *laukīt* 'seek', Lith *láukiu* 'wait (for someone)', Latv *lũkuõt* 'look at something', OCS *lučiti* 'meet someone', Rus *lučítĭ* 'meet someone', Grk *λεύσσω* 'see', OInd *lókate* 'perceive'. We have here a semantic specialization, probably of at least late PIE date, of **leuk-* 'shine, illuminate'; cf. OIr *lōichet* 'lightning', Lat *lūx* 'light', *lūceō* 'let (a light) shine', ON *ljōs* 'light', OE *lēoht* 'light' (> NE *light*), OHG *lioht* 'light', Goth *liuhaþ* 'light', Arm *luc'anem* 'ignite, burn', Hit *lukk-* 'be bright; dawn', Av *raok-* 'shine', OInd *rócate* 'illuminates, shines', TochAB *luk-* 'light up, be illuminated', TochB *lyūke* 'light'.

(s)pek̂- 'observe' (pres. ***(s)pék̂i̯e/o-***). [*IEW* 984 (**spek̂-*); Wat 63 (**spek-*); GI 102; Buck 15.52]. Lat *speciō* 'see', *haru-spex* 'haruspex', OHG *spehōn* 'spy', Grk *σκέπτομαι* 'look at', *σκοπός* 'observer' (Greek by metathesis from **spek̂-/*spok̂-*), Av *spasyeiti* 'spies', *spas-* 'observer', OInd *páśyati* 'sees', *spáṭ* 'observer', TochAB *päk-* 'intend', TochB *päkw-* 'expect'. Widespread and old in IE.

sekʷ- 'see' (< *'follow with the eyes'). [*IEW* 897–898 (**sekᵘ̯-*); Wat 57 (**sekʷ-*); cf. GI 688 (**še/okʰᵒ-*); Buck 15.51]. ON *sjā* 'see', OE *sēon* 'see' (> NE *see*), OHG *sehan* 'see', Goth *saiƕan* 'see', Lith *sekù* 'follow, keep an eye on', Alb *shoh* (< **sokʷ-eh₁-sk̂e/o-*) 'see', Hit *sākuwa* 'eye', Lydian *saw-* 'see, observe'. A metaphorical extension of **sekʷ-* 'follow' that appears, given the distribution of its attestations, to be of PIE date.

u̯el- 'see'. [*IEW* 1136–1137 (**u̯el-*); Wat 75 (**wel-*); Buck 15.51; BK 494 (**walʸ-/*wəlʸ-*)]. OIr *fil* 'there is' (< *behold!'), Wels *gweled* 'see', TochB *yel-* (< **u̯ēl-*) 'examine, investigate'. Latin and Germanic show reflexes of a derived noun **u̯éltus* (gen. **u̯l̥tóus*): Lat *voltus* 'facial expression, appearance, form', OE *wuldor* 'fame', Goth *wulþus* 'splendor'. In Germanic we have the enlargement *u̯leid-*: ON *līta* 'see, look', *leita* 'look around, seek', OE *wlītan* 'see, look', *wlātian* 'look around, seek', Goth *wlaitōn* 'look around, seek'. Found only on the margins of the IE world, a good candidate for PIE status.

?*leĝ- 'see' (< *'gather'). [cf. *IEW* 658 (**leĝ-*); Wat 35 (**leg-*); cf. GI 726 (**lek̂'-*); Buck 15.41; BK 578 (**luk'-/*lok'-*)]. Lat *legō* 'gather; read', OE *lōcian* 'look' (> NE *look*), OHG *luogēn* 'spy on', TochAB *läk-* 'see'. A metaphorical extension, similar to that of the previous word, from the field of movement to that of vision. As in the previous case, the extension of meaning may well be independent in all the stocks in which it occurs.

See also FOLLOW; LIGHT; PERCEIVE; SHINE; SHOW; VISIBLE. [D.Q.A.]

SEED

seh₁men- 'seed' (< *'what is sown'). [*IEW* 890 (**sē-men-*); Wat 56 (**sē-men-*); GI 594–595 (**sēmen-*); Buck 8.31]. Lat *sēmen* 'seed', OHG *sāmo* 'seed', OPrus *semen* 'seed', Lith (pl.) *sémenys* 'linseed', *sémuõ* 'linseed; a single seed of the flax plant', OCS *sěmę* 'seed'. Cf. OIr *sīl* 'seed', Lith *sėlena* 'husk of a seed'; ON *sāð* 'seed', OE *sǣd* 'seed' (> NE *seed*), OHG *sāt* 'seed', Goth *mana-sēþs* 'world, mankind' (< *'man-seed'). A word at least of the west and center of the IE world. From **seh₁-* 'sow'.

See also AGRICULTURE; SOW; GRAIN. [D.Q.A.]

SEEK

seh₂g- 'perceive acutely, seek out'. [*IEW* 876–877 (**sāg-*); Wat 55 (**sāg-*); GI 705 (**sāk'-*); BK 195 (**saħ-/*səħ-*)]. OIr *saigid* 'seeks out', Wels *haeddu* 'earn, gain', Lat *sāgiō* 'perceive acutely', *sāgus* 'prophetic', *sāga* 'fortune-teller, wise woman', *sagāx* 'sagacious, keen scented', ON *sœkja* 'seek', OE *sēcan* 'seek' (> NE *seek*), OHG *suohhen* 'seek', Goth *sōkjan* 'seek', Grk *ἡγέομαι* 'direct, lead', Hit *sākiya-* 'make known',

sagai- 'omen', *sakiyahh-* 'give an omen'. Widespread and old in IE.

See also Accomplish; Perceive; See. [D.Q.A.]

SEPARATE *see* DIVIDE

SERVANT

***$h_2$entbhi-k^wolos** 'servant'. [*IEW* 639 (**-k^uel-*); BK 414 (**ħaŋ-t[^{h}]-/*ħəŋ-t[^{h}]-*), 317 (**k^w[^{h}]ul-/*k^w[^{h}]ol-*)]. Lat *anculus* 'servant', Grk *ἀμφίπολος* 'servant, priest', OInd *abhicara-*'servant'. The word is a compound of **$h_2$entbhi* 'on either side, around' and a thematized nominal form of the verbal root **k^wél-* 'turn, move around in a circle'. The servants are thus described as the people moving about their master, circulating on his property. A similar concept is to be found in Celtic **ambactos* 'highly ranked servant' (< **$h_2$entbhi-* 'around' + the participle of the verbal root **h_aeĝ-* 'be active'; cf. Wels *amaeth* 'husbandman'). This latter term was borrowed into Germanic at a very early date and appears with a different suffix in the meaning in ON *embætti* 'office', OE *ambeht* ~ *ambiht* 'office', OHG *ambahti* 'office', Goth *andbahts* 'office' or OE *ambeht* 'maid', OHG *ambaht* 'maid', cf. ON *ambātt* where 'maid' has developed into 'concubine'. Distribution suggests PIE status.

***slóugos** 'servant, one performing service'. [IEW 965 (**slougo-*); Wat 61 (**sloug-o-*); Buck 19.43]. OIr *slōg* ~ *slūag* 'army, host; crowd, company', Wels *llu* 'army', Lith *slaugà* 'service', OCS *sluga* 'servant'; Rus *slug* 'servant'. A word of the IE northwest with different semantic developments in Celtic (military) and Balto-Slavic (service); cf. Lith *slaugė* 'nurse'.

?*$h_4$upo-sth_2i/o- 'servant'. [GI 401]. MIr *foss* 'servant', Wels *gwas* 'servant' (from Celtic > medieval Lat *vassus* ~ *vassalus* 'vassal'), OInd *úpasti-* 'subordinate, servant', *upasthānam* 'service'. The distribution on the peripheries of the PIE world suggests PIE status for this compound, but it is possible that it was created independently in the two stocks that show it.

See also Captive; Freeman. [E.C.P.]

SET

***dheh_1-** 'put, place' (pres. ***dhídhe$h_1$ti**). [*IEW* 235–236 (**dhē-*); GI 21 (**d^{h}ēH-*); Wat 13 (**dhē-*); Buck 12.12; BK 70 (**diy-/*dey-*)]. From the present **dhídhe$h_1$ti*: Grk *τίθημι* 'sets', Av *daδāiti* 'puts, brings', OInd *dádhāti* 'puts, places, lays', TochB *tattaṃ* 'will put, place'; other, newer, presents are reflected in Lat *facere* 'do', *-dere* in *ab-dere* 'take away', *con-dere* 'build, found, establish', *crēdere* 'believe' (< **k̑red-dheh_1-* 'put one's heart'), OE *dōn* 'do' (> NE *do*), OHG *tuon* 'do', Lith *dėti* 'lay', Latv *dēju* 'lay', OCS *děti* 'lay', Arm *dnem* (< **dheh_1-ne/o-*) 'puts, places', Hit *dā(i)-* (< **dheh_1-i-ei*) 'puts, lays', *tēzzi* (< **dheh_1-*) 'says', Lycian *tadi* 'puts, places', TochAB *tā-* ~ *täs-* 'put, lay'. (Most of these latter presents are built on the analogy of the aorist stem **dheh_1-* seen, as aorists, in Arm *ed* 'put, placed', OPers *adā* 'put, placed', OInd *ádhāt* 'put, placed' [< **$h_1$édheh_1t*].) Widespread and old in IE; the PIE word for putting and placing.

***sed-** 'set' (pres. ***sodéi̯eti** ~ ***sōdéi̯eti**). [*IEW* 884 (**sed-*); Wat 56 (**sed-*); GI 100 (**set'-*)]. From **sodéi̯eti*: OIr *adsuidi* 'delay', ON *setja* 'set', OE *settan* 'set' (> NE *set*), OHG *sezzen* 'set', Goth *satjan* 'set', OInd *sadáyati* 'sets'. From **sōdéi̯eti*: Lith *sodìnti* 'set, plant', OCS *saditi* 'set', Av *ni-šāδayeiti* 'sets down'. Cf. with a different suffix Hit *sazki* 'make sit'. The causative of **sed-* 'sit'. Widespread and probably old in IE.

***stel-** 'put in place, (make) stand (up)'. [*IEW* 1019–1020 (**stel-*); GI 101; Wat 66 (**stel-*); Buck 12.12]. Lat *stolidus* 'stolid', ON *stjǫlr* 'stem, stalk', *stallr* (< **stolno-*) 'stall', OE *stela* 'stalk, support', *steall* 'standing place, position, stall, stable' (> NE *stall*), *stellan* (< **stolnei̯e/o-*) 'put, place', OHG *stal* 'standing place, position, stall', *stellen* 'set up, establish', OPrus *stallit* 'stand', Alb *shtjell* (< **stel-nō*) 'fling, toss, hurl', Grk *στέλλω* 'make ready, fit out with; send, dispatch', *στόλος* 'equipment, troop', Arm *stełem* 'set, place', OInd *sthálam* 'eminence, tableland; ground, earth; dry land' (with initial consonant cluster influenced by *sthā-* 'stand'). Widespread and old in IE.

See also Sit; Stand. [A.D.V.]

SET IN MOTION

***$h_1$er-** 'set in motion'. [*IEW* 326–332 (**er-*); Wat 17 (**er-*); GI 187 (**er-*); cf. Buck 10.11; BK 593 (**ur-/*or-*)]. (1) pres. **h_1r̥néuti* 'stirs up, sets in motion': Grk *ὄρνῡμι* 'stir up, move', Arm *y-ařnem* 'stand up', Hit *arnuzzi* 'brings, sets in motion', Av *ərənaoiti* 'moves', OInd *r̥ṇóti* 'moves'; (2) pres. **$h_1$órtor* 'stands up': Hit *arta* 'stands, is present, occurs', TochA *artär* 'will evoke, produce', TochB *ertär* 'will evoke, produce'; (3) **$h_1$órei*: Hit *ari* 'comes, arrives'. Other presents are represented by Lat *orior* 'rise; be born', OInd *íyarti* 'sets in motion'. Widespread and old in PIE.

***$h_1$eis-** 'set in motion'. [*IEW* 299–301 (**eis-*); GI 188, 194 (**eis-*)]. ON *eisa* 'go dashing', Grk *ἰνάω* 'pour out', *οἴομαι* 'suppose, think', Av *aēš-* 'set in motion', OInd *iṣṇā́ti* 'sets in motion, swings', *iṣanyáti* 'impels', *éṣati* 'glides'. Geographically widespread and certainly of PIE date. Related to the word for 'arrow'.

***kei-** 'set in motion'. [*IEW* 538–539 (**kēi-*); Wat 28 (**kei-*); Buck 10.11; BK 307 (**k^y[^{h}]ay-/*k^y[^{h}]əy-*)]. Lat *cieō* 'set in motion', *citus* 'quick', *citāre* 'set in motion', Alb *qoj* 'wake', Grk *σεύω* (< **ki̯eu-*) 'set in motion', *κῑνέω* 'set in motion, drive', Arm *c'vem* 'set off', Av *š(y)avaite* 'sets off', OInd *cyávate* 'goes forth', TochB *śä-* 'set in motion'. Widespread and old in IE.

***$h_2$lei-** 'set in motion'. [*IEW* 664–665 (**lēi-*); Wat 36 (**lei-*); cf. Buck 9.35]. OIr *lie* (*DIL līa*) 'river, sea' and Wels *llif* ~ *lli* 'river, sea' (< **līyant-*), OIr *do-lin* (< **-li-nu-*) 'streams', Wels *dillydd* 'pours out', Lat *lītus* 'beach' (< *'flooded area'), ON *līð* 'beer', OHG *līth* 'fruitwine', Goth *leiþu* 'fruitwine', Lith *lėju* ~ *lieju* 'pour', *lỹju* 'rain, stream', Latv *liêt* 'pour', *lìt* 'rain', OCS *lějǫ* ~ *lijǫ* 'pour', Grk *ἄλεισον* (< **$h_2$leitu̯o-*) 'cup, goblet', Hit *halā(i)-* (< **$h_2$lói̯ei*) 'sets in motion'. Widespread

and old in IE. Except for Hittite the meaning has been specialized to 'set (a liquid) in motion'.

pelh$_a$- 'set in motion' (pres. ***pelneh$_a$-***). [*IEW* 801–802 (**pel-*); Wat 48 (**pel-*)]. OIr *ad-ella* (*-ella* < **pelnāt*) 'seeks', Lat *pellō* 'push, drive away', *ōpiliō* (< **oui-peliō*) 'shepherd', *Palēs* 'goddess of herdsmen'. A word restricted to the west of the IE world.

kerh$_x$- 'propel'. [cf. *IEW* 933 (**(s)ker-*)]. OInd *kiráti* 'pour out, scatter, throw', TochB *kärsk-* (< **kr̥h$_x$-sḱe/o-*) 'propel', i.e., shoot, throw, spread (by throwing), TochA *pärra-krase* 'distance of an arrow-shot'. Dialectally restricted to the east of the IE world.

ieudh- 'set in motion, stir up, make excited'. [*IEW* 511 (**ieu-dh-*); Wat 79 (**yeudh-*); Buck 10.11]. Lat *iubeō* 'order' (< *'set in motion'), Lith *judù* 'move oneself, stir, get oneself in motion', *júdinu* 'set in motion', *jundù* 'feel, perceive', *jaudinù* 'excite, stir, move', Latv *jàust* 'feel, pay attention to, understand', Pol *judzić* 'incite', Grk *ὑσμῑνη* 'combat', Av *yūiδyeinti* 'they fight', *yaozaiti* 'becomes agitated (of water and emotions)', OPers *yaudatiy* 'is stirred up', OInd *yúdhyate* 'fights', *ud-yodhati* 'boils up', TochA *yutk-* (< *judh-sḱe/o-*) 'become upset, worry'. Widespread and old in IE.

uegh- (***ueĝh-***?) 'shake, set in motion'. [Wat 74 (**wegh-*); BK 301 (**wag^y-/*wəg^y-*)]. Lat *vexāre* 'shake, vex', OE *wecgan* 'agitate', ME *waggen* 'wag' (> NE *wag*), Goth *wagjan* 'shake', Grk *γαιή-οχος* 'earth-shaking', TochA *wäsk-* 'move, budge, have motion (intr.); move (from a place) (intr.); tremble', TochB *wäsk-/wäsk-* 'move, budge, have motion (intr.); move (from a place) (intr.); tremble' (Toch < **uegh-sḱe/o-*). Perhaps this should be reconstructed **ueĝh-* and regarded as an early semantic specialization of **ueĝh-* 'bear, carry'. In any case, widespread and old in IE.

ueip- 'set in motion, agitate'. [cf. *IEW* 1131–1132 (**ueip-* ~ **ueib-*); Wat 75 (**weip-*)]. Av *vip-* 'throw, ejaculate', OInd *vépati* ~ *vépate* 'trembles', TochB *wip-* 'shake'. A word of the IE east.

seuh$_3$- 'set in motion' (pres. ***sunéh$_3$ti***). [*IEW* 914]. OIr *soid* 'twists, turns', Hit *suwāi-* 'push, urge', *sunna-* 'fill', *sūu-* 'full', *sāwatar* (< **souh$_3$edhrom* 'horn' [< *'pusher']), Palaic *sūnat* (< **su-ne-h$_3$-t*) 'poured out', Av *hunāiti* (< **su-ne-h$_3$-ti*) '± seeks to create, drives toward', OInd *suváti* 'sets in motion, vivifies, urges', *savá-* 'instigator; instigation', TochB *ṣewi* 'pretext, excuse'.

See also Bow and Arrow; Flow; Move; Pour; Stir. [D.Q.A.]

SEW *see* TEXTILE PREPARATION

SEXUAL ORGANS AND ACTIVITIES

péses- 'penis'. [*IEW* 824 (**pes-*); Wat 50 (**pes-*); GI 716 (**p^{h}es-os-*); Buck 4.492; BK 62 (**p[^{h}]as^y-/*p[^{h}]əs^y-*)]. Lat *pēnis* (< **pesn-i-* 'manhood' derived from **pes-no-* 'man', cf. Hit) 'penis, tail', OE *fæsl* 'seed, offspring', OHG *fasel* 'penis', Grk ***πέος*** 'penis', ***πόσθη*** 'penis, foreskin', Hit *pisna-* 'man' (< '[one] provided with a penis'), *pisnatar* 'penis', OInd *pásas-* 'penis', *pela-* (< **pazla-*) 'testicle'. Very strong evidence for PIE status.

kápr̥ 'penis'. [*IEW* 529; Wat 27; Buck 3.37]. The underlying noun is seen in OInd *kápr̥th-* 'penis'; a derivative **kápr-o-* 'possessed of a penis' is seen in OIr *gabor* 'he-goat', Wels *gafr* 'he-goat', Gaul *Gabro-magus* 'goatfield' (with initial *g-* rather than **k-* that is not well understood), Lat *caper* 'he-goat', ON *hafr* 'he-goat', OE *hæfer* 'he-goat', Grk ***κάπρος*** 'boar'. The meanings of the derivative suggest, perhaps, that this word tended to mean 'animal penis' while **péses-* may have had a tendency to be restricted to 'human penis'. In any case, the distribution of the underlying noun plus its derivative would seem to guarantee PIE status for **kápr̥*.

h$_3$pusós 'shaft, penis'. Grk *ὀπυίω* (< **h$_3$pusie/o-*) 'copulate, marry', Hit *hapusa-* 'shaft, penis'. An early euphemism for 'penis', preserved as such in Hittite.

putós '± vulva, anus'. [*IEW* 849 (**pū-to-*)]. ON *fuð-* 'vulva', MHG *vut* 'vulva', Grk (Hesychius) *πύννος* (< **pútno-*) 'anus', OInd (attested only very late) *putau* (dual) 'buttocks'. Sparsely but widely attested. The best candidate for a word with this meaning having PIE status.

kutsós (Greek) ~ ***kutsnós*** (Latin, Iranian) 'anus, vulva'. [*IEW* 952–953 (**(s)keu-*)]. Lat *cunnus* (with expressive gemination) 'vulva', Grk (Hesychius) ***κῡσός*** 'anus, vulva' (outside of Hesychius this word occurs in compounds, always with the meaning 'anus' and always with reference to pederasty), NPers *kūn* 'vulva'. Perhaps also belonging here are Wels *cwthr* (< **kuzdhro-*) 'anus' and Grk ***κύσθος*** (if < **kuts-to-*) 'vulva'. A late, popular word in PIE subject to phonological deformation.

kuḱis '± (female) pubic hair, vulva'. [*IEW* 953 (**(s)keu-ḱ-*)]. Lith *kūšỹs* 'female pubic hair, vulva', Latv *kūsis* 'pubic hair, vulva' (Baltic with new lengthened vowel), NPers *kus* 'female genitals'. Geographically restricted to the center and east of the IE world. This may well be in origin the euphemistic use of a word meaning 'belly'; compare OInd *kukṣí-* 'belly' which, though derived morphologically, may preserve the older meaning.

pisdo/eh$_a$- 'vulva'. [*IEW* 831 (**pīzdā-*)]. OPrus *peisda* 'ass', Lith *pyzdà* 'vulva', Latv *pīzda* 'vulva', Rus *pizdá* 'vulva', Pol *pizda* 'vulva' (Balto-Slavic with lengthening of *-i-* to *-ī-* by Winter's Law), Alb *pidh* 'vulva', Nūristāni *pərí* (< **pizdikā*) 'vulva'. From **(h$_1$e)pi-* + *s(e)d-* + *-o-* 'what one sits on' (cf. **ni-sd-ós* 'nest' < **(h$_1$)ni-* + *s(e)d-* + *-o-* 'what one sits in'). Archaic in formation but geographically limited to central and eastern IE. Presumably a late, dialectally restricted PIE euphemism for 'vulva'.

h$_4$órĝhis (gen. ***h$_4$r̥ĝhiós***) 'testicle'. [*IEW* 782 (**orĝhi-*), GI 716 (**orĝ^h-i-*); Buck 4.49; BK 428 (**ar-ag-/*ər-ag-*)]. MIr *uirge* (< **h$_4$orĝhiieh$_a$-*) 'testicles', Alb *herdhe* 'testicles', Grk *ὄρχις* 'testicle', Arm *orjik'* 'testicles', Hit *arki-* 'testicle', Av *ərəzi-* 'scrotum', *ərəzī* (dual) 'testicles', TochB *erkatstse* 'testiculate'. From **h$_4$órĝhei* 'mounts'. The PIE word for 'testicle'.

h$_1$endrós 'egg, scrotum'. Rus *jadró* 'kernel, scrotum', OInd *āṇḍá-* 'egg, scrotum', (dual) 'testicles', Kalaša *ónḍrak* (preserving the Proto-Indic **-r-*) 'egg'. Originally 'that which

is inside' (PIE *$h_1$en- 'in'), whence > 'kernel, egg'. The development 'egg' > 'scrotum' may be independent in Old Indic and Slavic or may reflect a late PIE 'easternism'.

muskós 'male or female sex organ'. [*IEW* 753 (*mūs); Buck 4.49]. Grk (Hesychius) *μύσχον* (with 'expressive' *-kh-*) 'male or female sex organs', OInd *muṣká-* 'testicle, scrotum', (dual) 'vulva'. Etymologically probably *mus-kó- 'little mouse' from its presumed resemblance to a mouse under the skin (as in *mūs-tlo- 'muscle'). Unlike the similar extension of 'mouse' to 'muscle', this metaphor seems limited to late IE.

$h_4$órĝhei ~ *h_4r̥ĝhór 'mounts, covers'. [*IEW* 339 (*ergh-)]. ON *argr* 'cowardly, unmanly, immoral' (< *$h_4$órĝhos 'one [who is] mounted'), *ergi* (< *$h_4$orĝhi̯eh$_a$-) 'lascivious behavior, shamelessness', Lith *aržùs* 'lascivious', Rus *jërzajet ~ jërgajet* 'fidgets, wriggles, moves in coitus', Grk *ὀρχέομαι* 'makes lascivious motions, dances', *ἀρχός* 'rectum, anus', Hit *ārki ~ arga* 'mounts' (attested only with reference to a male animal), OInd *r̥ghāyáte* 'is impetuous, rages'. Though the underlying verb is attested only in Hittite (with originally iterative-intensives also in Slavic, Indic, and Greek), this is surely the oldest reconstructible IE verb for 'copulate'. Cf. also *$h_4$órĝhis 'testicle'.

i̯ébhe/o- 'enter, penetrate' > 'copulate'. [*IEW* 298 (*eibh-); GI 716 (*eib^h-); Buck 4.67]. Rus *jebú* 'copulate', Grk *οἴφω* 'copulate', Sogd *ā-yamb-* 'commit adultery', OInd *yábhati* 'copulates'. The meaning 'copulate' is a specialization of an earlier 'penetrate, enter' still to be seen in Luv *ipatarma-* 'west', *iparwassa/i-* 'western' (presupposing a pre-Luvian *ipa- 'west, sunset'), TochA *yow-* 'enter, set (of sun)', TochB *yäp-* 'enter, set (of sun)'. The semantic specialization would seem to have been confined to the central and eastern parts of the IE world, one that did not affect either Tocharian or Anatolian and which has left no trace in the "west".

See also **Anatomy**; **Blow**; **Castrate**; **Goat**. [D.Q.A.]

Further Reading

Watkins, Calvert (1975). La famille indoeuropénne de grec *ὄρχις*: linguistique, poetique et mythologique. *BSLP* 70, 11–26.

SHADOW

sk̑ói̯h$_a$ (gen. ***sk̑ii̯éh$_a$s***) 'shade [= place protected from the light], shadow [= image cast]'. [*IEW* 917–918 (*sk̑ii̯ā-); Wat 58 (*skeəi-); GI 103; Buck 1.63]. Latv *seja ~ sejs* (< *sk̑ei̯o/eh$_a$-) 'shadow; ghost', OCS *sěnĭ* (< *sk̑oi-nih$_a$-) 'shade, shadow', Rus *sen* 'shade, shadow', SC *sjȅn* 'shade, shadow', *ȍsoje* (< -*sk̑oi̯om) 'shaded spot', Alb *hie* (< *sk̑ei̯eh$_a$-) 'shade, shadow; ghost, spectre', (dial.) *hē* 'shade, shadow; ghost, spectre' (< *sk̑ii̯eh$_a$, if *hē* is not just another form of *hie*), Grk *σκιᾱ́* (< *sk̑ii̯éh$_a$-) 'shade, shadow; reflection, image (as in a bowl of oil); ghost, spectre', *σκίρον* 'umbrella' (a nominalization by accent retraction from *sk̑iró- 'shady'), (Hesychius) *σκοιός* (< *sk̑oih$_a$-ó-) 'shady', Av *a-saya-* 'who throws no shadow', NPers *sāya-* 'shadow', OInd *chāyá-* 'shade, shadow, shady place' (Indo-Iran < *sk̑oi̯éh$_a$-), TochB *skiyo* 'shadow' (< *sk̑ii̯eh$_a$-, the lack of the expected initial palatalization may reflect a leveling from the old nominative *sk̑oih$_a$). Widespread and old in IE.

skótos 'shadow, shade'. [*IEW* 957 (*skot-); Wat 61 (*skot-); Buck 1.63]. OIr *scāth* 'shadow, reflection; ghost, spectre', MWels *ysgawt* 'shadow, darkness; nocturnal spirit' (Celtic < *skōto-), OE *sceadu* 'shadow' (> NE *shadow*), OHG *scato* 'shadow', Goth *skadus* 'shadow' (Gmc < *skotu̯ó-), Grk ***σκότος*** 'darkness, gloom, shadow', ***σκοτόω*** 'darken, blind' (> NGrk ***σκοτώνω*** 'kill'). At least a word of the west and center of the IE world.

See also **Dark**; **Shine**. [D.Q.A.]

SHAFT

$h_{2/3}$éih$_1$os ~ *$h_{2/3}$éih$_1$ōs (gen. ***$h_{2/3}$ih$_1$sós***) 'shaft (of a cart or wagon)'. [*IEW* 298 (*ei- ~ *oi-); GI 624 (*His-)]. ON *ār ~ ǫr* 'oar', OE *ār* 'oar' (> NE *oar*) (< Proto-Gmc *aizó-), Rus *vojë* 'shaft', Slov *oje* (gen. *ojêsa*) 'shaft', Grk *οἰήϊον* 'tiller, helm, rudderpost', Hit *hissa-* 'pole, shaft, thill (for harnessing a draft animal to a cart)', Av *aēša-* '± (pole-)plow, pair of shafts', NPers *xēš* 'plow(-share)', OInd *īṣā́* 'pole, shaft'. Baltic is probably represented by borrowing in Finnish *aisa* 'pole, shaft' (< Proto-Baltic *aisa- or *aisō-), though Iranian has also been seen as the source of the Finnish word. Compare also the derived Grk *οἴᾱξ* 'ring on a yoke through which the reins are passed, terret'. Widespread and old in IE. The proto-language would appear to have had both a neuter *$h_{2/3}$éih$_1$os, preserved as such in Slavic, and a "collective" feminine *$h_{2/3}$éih$_1$ōs, whose non-nominative stem *$h_{2/3}$ih$_1$s- is reflected in the Hittite and Old Indic forms. Almost also certainly of PIE age is the derivative *$h_{2/3}$oih$_1$séh$_a$- with substantially the same meaning seen in Germanic, Baltic (in the form of a loanword into Finnish), and Iranian. Only Baltic shows related words without *-s-, e.g., Lith *íelekstis* 'pole, shaft', *ailė* 'pole', Latv *ielukši* 'shaft', *ailis* 'pole', Lith *íena* 'pole'.

dhúr- '± pole, peg, pin'. [GI 624–625 (*d^{h}ur-)]. Grk *θαιρός* 'pivot of door or gate; axle of chariot', Hit *tūriye-* 'harness' (< *'put to the wagon-shaft'), OInd *dhur-* 'means of harnessing a horse to a cart, pole, fore-carriage', *dhúra-* 'yoke, peg of axle', *dhúrya-* 'draft animal', TochA *turs-ko* 'draft ox'. Reasonably widespread and certainly old in IE. Probably not to be confused with *dhu̯er- 'pierce'.

tengh-s- 'pole'. [*IEW* 1067]. Lat *tēmō* (< *tengh-s-mōn-) 'pole, shaft, beam; wagon', ON *þísl* 'pole', OE *þīsl* 'wagon-pole, shaft', OHG *dīhsala* 'wagon-pole, shaft' (< Gmc *þinhs- < *tengh-s-leh$_a$). From *ten- 'pull, stretch. A word of the west of the IE world.

See also **Axle**; **Wagon**; **Yoke**. [D.Q.A.]

Further Reading

Meid, W. (1994) Die Terminologie von Pferd und Wagen im Indogermanischen, in *Die Indogermanen und das Pferd*, eds. B. Hänsel and S. Zimmer, Budapest, Archaeolingua, 53–65.

SHAKE

trem- 'shake, tremble (in fear)'. [*IEW* 1092–1093 (**trem-*); Wat 72 (**trem-*); GI 187 (**t^h^rem-*); Buck 16.53]. Lat *tremō* 'shake', Lith *trìmti* 'shake', Latv *tremt* 'chase away', Alb *tremb* (with secondary *-b-*) 'scare, startle, shock', Grk τρέμω 'shake', ταρμύσσω 'am afraid', TochA *träm-* 'be enraged'. Cf. the derivative **trómos*: Grk τρόμος 'trembling', TochB *tremi* 'anger'. Widespread and old in IE.

tres- 'tremble, shake with fear'. [*IEW* 1095 (**tres-*); Wat 72 (**tres-*); GI 207 (**t^h^res-*); Buck 16.53; BK 97 (**t[^h^]ir-/*t[^h^]er-*)]. MIr *tarrach* (< **tr̥sāko-*) 'fearful', Lat *terrēre* 'terrify', *terror* 'terror', Lith *trišù* (if < **tr̥s-sk̑e/o-*) 'tremble', Latv *trisêt* 'tremble', OCS *tręsǫ* 'tremble', Grk τρέω 'tremble, flee', Av *trərəsaiti* (< **tr̥s-sk̑e/o-*) 'fears', *θraŋhayeiti* 'frightens', OInd *trásati* 'trembles, is afraid'. Widespread and old in IE. Both **trem-* and **tres-* are enlargements of an unattested **ter-* 'shake, tremble'. In both cases there has been a tendency to develop a metaphorical transfer, probably of PIE date, from an outward sign of fear to fear itself.

rei- 'tremble, be unsteady' (reduplicated pres. or perfect ***rei-roi-h₂e***). [*IEW* 862 (**rei-r(ēi)-*)]. Goth *reiran* 'tremble, shake', OInd *leláya* ~ *lelāyáti* 'swings, is unsteady'. The exact equation of this odd present formation on the part of two languages on the periphery of the IE world would seem to assure reconstruction of PIE age.

tu̯eis- 'shake'. [*IEW* 1099 (**tu̯ēi-*); Wat 72 (**twei-*); Buck 10.26]. Grk σείω 'shake', Av *θwaēšah-* 'fear, anxiety', OInd *tvéṣate* 'is excited'. A form without the final **-s-* is seen in Av *upa-θwayeiti* 'is afraid', *θwayah-* 'fright, danger'. At least a word of the center and east of the IE world.

kret- 'shake'. [*IEW* 620 (**kret-*); Wat 32 (**kret-*); Buck 10.26]. MIr *crothaid* 'shakes', ON *hraðr* 'quick', OE *hraðe* 'quick', OHG *hrad* 'swift, strenuous', *redan* 'sieve', Lith *krečiù* 'shake, jolt; strew by shaking', *kretù* 'shake, move back and forth', Latv *krèst* 'shake, jolt'. A word of the west and center of the IE world.

?*(s)ku(n)t- 'shake, jolt'. [*IEW* 957–958 (**(s)kŭt-*); Wat 61 (**skut-*)]. From **kut-*: OE *hūdenian* 'shake', Lith *kutinė́tis* 'preen oneself (of birds)', *kutù* 'rouse, shake out of a lethargy'; from **skut-*: OE *scūdan* 'drive', ME *shud(e)ren* ~ *shudren* 'shudder' (> NE *shudder*), OHG *scutilōn* 'shake, jolt', *scudden* 'shake, jolt', OCS *skytati sę* 'wander'; from **(s)kunt-*: ON *skynda* 'drive', OE *scyndan* 'drive', OHG *scuntan* 'impel, stimulate', Lith *kuntù* 'recover, get better' (i.e., 'shake something off'). Limited to Germanic and Baltic but widespread and prolific within those groups; a northwest dialectal word.

kreut- '± shake'. [*IEW* 623 (**kreu-t-*)]. ON *hraustr* 'quick; courageous', OE *hrēaðe-mūs* 'bat', MHG *rütten* (< **hrudjan*) 'shake, jolt', Lith *krutù* 'move, stir', *krutùs* 'active, alert'. The very limited geographical range of the attestation of this word suggests a northwest isogloss.

kseubh- 'shake'. [*IEW* 625 (**kseubh-*)]. Pol *chybnąć* 'shake', Av *xšaob-* 'agitate', OInd *kṣúbhyati* 'shakes'. Related in some fashion to **skeubh-* 'push away, push ahead'. An isogloss of Slavic-Indo-Iranian.

?*k^w^at- 'shake'. [*IEW* 632 (**ku̯ēt-*); Buck 10.26]. Lat *quatiō* 'shake, brandish, agitate', Grk πάσσω 'strew, sprinkle'. Formally a perfect equation but the isolation of this root to two stocks and the semantic distance invite caution. Perhaps, but only perhaps, a late IE word.

See also **Fear**; **Frighten**. [D.Q.A.]

SHAME

h₂eig^w^hes- 'shame'. [*IEW* 14 (**aigᵘh-*); Buck 16.45]. OE *ǣwisce* 'shame, insult', Goth *aiwiski* 'shame' (< **h₂eig^w^hes-ki-i̯om*), Grk αἶσχος (< **h₂eig^w^h-s-ko-s*) 'shame, disgrace'. Compare also OE *īewan* ~ *ǣwan* (< Proto-Gmc **aiwjan*) 'despise', MHG *eisch* 'ugly, detestable'. At least a word of the west and center of the IE world.

h₂égos (gen. ***h₂égesos***) 'shame'. [*IEW* 8 (**agos-*); Wat 1 (**ag-es-*); BK 459 (**ħak'-/*ħək'-*)]. Grk ἄγος 'guilt, pollution', OInd *ā́gas-* 'guilt, sin'. The Greek term is more specifically 'consecration', hence 'malediction'. Although not in Homer, this word has been identified in a Mycenaean toponym. Undoubtedly, it was part of the terminology of the 'sacred' (cf. Hesychius gloss ἄγεα = τεμένεα), taken negatively as a religious interdiction striking those who break it (cf. ἐναγής 'cursed by the gods, struck [for profanation]'). Favorable and unfavorable meanings occur side by side, e.g., παναγής 'very sacred' and 'cursed'. Even the anthroponym Ἀγής points to some positive sense; however, the meaning 'curse' seems to prevail and in compound verbs, derivations from ἄγος indicate the chasing away of a defiled person. This denotes the ambivalence of the "sacred", also shown by Lat *sacer*. One would be tempted to connect this with Grk ἅγιος 'sacred' but the spiritus asper of the latter makes it difficult though ancient grammarians sometimes considered ἄγος as a form with psilosis of ἅγιος and ἁγνός. Indeed ἄγος appears to be attested in the Pamphyllian dialect but the initial *h-* may reflect conflation with the semantically similar ἅγιος.

See also **Insult**; **Sacred**. [E.C.P.]

SHARP

h₂ek̑- 'sharp, pointed'. [*IEW* 18–19 (**ak̑-* ~ **ok̑-*); Wat 1 (**ak-*); GI 96 (**ak̑^h^er-*); Buck 15.78; BK 398 (**ħuk[^h^]-/*ħok[^h^]-*)]. Wels *hogi* 'to sharpen', Lat *ācer* 'pointed, sharp > pungent, sour (of taste)', *acus* 'needle', MHG *ag* ~ *egle* 'perch', Alb *athët* (earlier *athë-të*) (< **h₂ak̑o-*) 'sour', Grk ἀκή 'point', Arm *aseln* ~ *asłan* 'needle', NPers *ās* 'grinding stone'. In Germanic, this form has been connected with 'perch' (the fish) as can be seen in Danish *aborre*, which would be from **ag + burzōn* 'pointed/sharp + pointed one', along with various less likely suggestions in that branch. Other formations built on this root include Lith *aštrùs* (~ *ašrùs*) 'sharp', Latv *ašs* ~ *ass* 'strong, powerful, sharp', OCS *ostrŭ* 'sharp', OInd *áśri-* 'sharp edge, edge', *áśman-* 'stone, cliff'. An extremely clear case for PIE status with a broad set of formations based on this root. Although sometimes set here, Hit *hekur* 'summit, peak' would appear to be a borrowing.

kent- 'sharp'. [*IEW* 567 (**k̑ent-*); Wat 29 (**kent-*); GI

205 (*k^hent^h-)]. ON *hannarr* (< **hanþaraz*) 'clever', OHG *handeg* 'bitter, stern', Goth *handugs* 'wise', Latv *sīts* 'hunting spear', Grk *κεντέω* 'prick'. The connection between the Germanic and Greek forms is uncertain. A variant **ḱneth$_2$-* is seen in Av *snaθ-*, OInd *śnath-* 'stab'. Widespread and old in IE.

?*bheh$_{ag}$- '?sharp'. [*IEW* 107 (**bhag-*)]. Grk (Cretan) *φάγρος* 'whetstone', Arm *bark* 'bitter'. The meager attestation and the considerable semantic distance between these two forms prevents the positing of this form as IE.

?*ḱh̥$_x$tós 'pointed'. [*IEW* 541–542 (**ḱə-to-*); Buck 15.78]. OIr *cath* '?wise; ?holy, sacred', Lat *catus* 'sharp, pointed', OInd *śitá-* 'sharpened, sharp'. The Old Irish form has been treated as a Latin loan or connected to OIr *cáid* 'holy, pure, noble'. Weak case for IE status. Most likely independent developments of **ḱeh$_x$(i)-* 'sharpen'.

See also FISH; PERCH; SHARPEN; STONE; WHETSTONE. [J.C.S., M.N.]

SHARPEN

****ḱeh$_x$(i)-*** 'sharpen, hone'. [*IEW* 541–542 (**ḱē(i)-*); Wat 32 (**kō-*); GI 199 (**Hḱ^h-eH-*)]. The underlying verb is preserved only in OInd *śíśāti* ~ *śyáti* 'sharpens, whets'. There are a number of widespread derivatives: (1) **ḱh̥$_x$tós* in OIr *cath* 'wise' (a *hapex legomenon* and possibly a loan), Lat *catus* 'acute, sharp of sense', OInd *śitá-* 'whetted, sharp'; (2) **ḱoh$_x$nos* doubtfully in Grk *κῶνος* 'pinecone, fircone; peak of a helmet' (if < *'sharpened object'), *κώνειον* 'hemlock' (< *'coniferous'), more certainly in OInd *śāṇa-* (with MInd *-ṇ-* for expected *-n-*) 'whetstone', TochB *kāntsā-* 'sharpen' (if < **ḱoh$_x$n-es-eh$_a$-*); (3) **ḱoh$_x$ros* in Arm *sur* 'sharp', *srem* 'sharpen' (with numbers (2) and (3) possibly reflecting a heteroclitic **ḱóh$_x$r̥*, gen. **ḱh̥$_x$nós*); (4) **ḱoh$_x$inis* in ON *hein* 'whetstone', OE *hān* 'whetstone' (> NE *hone*), Av *saēni-* 'point'; (5) **ḱh̥$_x$lo/eh$_a$-* in Arm *sal* 'slab, anvil', OInd *śilā́-* 'stone'. Yet other formations are to be seen in Lat *cōs* (gen. *cōtis*) 'whetstone' and probably Alb *thikë* 'knife' (if < **ḱih$_x$k(^{w})eh$_a$-* or, if **-h$_x$-* = **-h$_1$-*, **ḱeh$_1$ik(^{w})eh$_a$-* 'sharpened object'). Widespread and obviously old in IE.

****kseu-*** 'rub, whet' (pres. ****ks-né-u-ti***). [*IEW* 586 (**ks-eu-*); Wat 30 (**kes-*); GI 192 (**k^{h}sn-i̯ō-* ~ **k^{h}s-n-eu̯-*); BK 243 (**k/^{h}/as-/*k/^{h}/əs-*)]. Lat *novācula* (< **ksneu̯eh$_a$-*) 'razor', ON *snøggr* 'cut-short', Grk *ξύω* 'shave, rub', *ξυρόν* 'razor', Av *hu-xšnuta-* 'well sharpened', OInd *kṣṇáuti* 'whets, sharpens', *kṣurá-* 'razor'. Sufficiently widespread to guarantee PIE status.

****k^{w}ed-*** 'whet, sharpen'. [*IEW* 636 (**k^{u}ĕd-*); Wat 33 (**k^{w}ed-*); Buck 15.78; BK 341 (**k'^{w}at'-/*k'^{w}ət'-*)]. Lat *triquetrus* (< **tri-qued-ro-*) 'having three corners, triangular', ON *hvass* 'sharp, keen', *hvatr* 'quick, sharp', OE *hwæs* 'sharp, piercing', *hwæt* 'sharp, quick; bold, brave', *hwettan* 'sharpen, incite, encourage' (> NE *whet*), OHG *(h)waz* 'sharp, rough, severe', *wezzen* 'sharpen', Goth *ga-ƕatjan* 'sharpen, incite, entice'. A word of the IE northwest.

See also KNIFE; PINE; RAZOR; SHARP; WHETSTONE. [D.Q.A.]

SHEATFISH

****(s)k^{w}álos*** 'sheatfish, wels (*Silurus glanis*)'. [*IEW* 958 (**(s)k^{u}alo-s*); Wat 61 (**(s)k^{w}al-o-*); BK 330 (**k^w/^{h}/al-*)]. Lat *squalus* 'large sea-fish' (according to Pliny it is viviparous and cartilaginous but not a flatfish, thus a 'shark'?), ON *hvalr* 'whale', OE *hwæl* 'whale' (> NE *whale*), OHG *hwal* 'whale', MHG *wels* 'sheatfish', OPrus *kalis* 'sheatfish', Grk (Hesychius) *ἄσπαλος* (< **sk^{w}alos* and not well explained initial *a-*) 'fish', Av *kara-* 'a kind of fish', MPers *kar māhīk* a mythical fish, the largest of fish (lit. 'moon-fish' < as the sheatfish is basically a nocturnal feeder). It is significant that Hesychius localizes the use of *ἄσπαλος* 'fish' to the Athamanians who inhabited the region of northwestern Greece drained by the Achelōos (the modern Aspropótamos), the one river in Greece where sheatfish are native. The sheatfish is a large freshwater fish that may achieve a length of one meter and weigh 10 kg. It inhabits the big, slow-moving rivers and lakes of Asia and eastern Europe (as far west as the Elbe). It is very well known along the large rivers such as the Danube and the Dnieper but it is apparently absent from Siberia and the arctic north although present in Central Asia. It seems likely that **(s)k^{w}álos* originally designated the 'sheatfish' and as speakers of various IE stocks migrated outside its habitat, the name was given to other large important fish (or cetaceans). In any case the range of attestations for this word strongly suggests PIE status.

****ḱámos*** 'sheatfish'. Lith *šãmas* 'sheatfish', Latv *sams* 'sheatfish', Rus *som* 'sheatfish', Grk *καμασῆνες* (pl.) 'a kind of fish'. A word of the center of the IE world; a partial replacement for the previous word.

See also FISH. [D.Q.A.]

Further Reading

Rodriguez, M. S. (1989) Indo-European **(s)k^{w}alo/i-s* 'sheat-fish'. *JIES* 17, 177–180.

SHEEP

****h$_2$óu̯is*** (gen. ****h$_2$éu̯ios***) 'sheep (*Ovis aries*)'. [*IEW* 784 (**óu̯i-s*); Wat 46 (**owi-*); GI 493–494 (**howi-*); Buck 3.25, 3.28; BK 370 (**uw-/*ow-*)]. OIr *oī* 'sheep', Lat *ovis* 'sheep', ON *ær* 'sheep', OE *ēowu* 'sheep' (> NE *ewe*), OHG *ou* ~ *ouwi* 'sheep', Goth *aweþi* 'herd of sheep', *awistr* 'sheep-fold', OPrus *awins* 'ram', Lith *avìs* 'sheep', Latv *avs* 'sheep', OCS *ovĭnŭ* 'sheep', Grk *ὄ(ϝ)ϊς* 'sheep', Arm *hovi-w* 'shepherd', Luv *hāwa/i-* 'sheep', Lycian *xawa-* 'sheep', Wakhi *yobc* (< Proto-Iranian **āvi-či-*) 'ewe', OInd *ávi-* 'sheep', TochB *eye* (< **h$_2$ou̯ēis*) 'sheep', (pl.) *awi* (< **h$_2$eu̯éi̯es*) 'ewes' (whether these two words are part of a single paradigm in Tocharian B is very doubtful). Widespread and old in IE.

****h$_2$ou̯ikéh$_a$-*** 'ewe'. [*IEW* 784 (**ou̯ikā*); Buck 3.28; BK 370 (**uw-/*ow-*)]. Wels *ewig* 'hind', OCS *ovĭci* 'ewe', OInd *avikā́* 'ewe'. A regular feminine derivative of the previous word, itself of PIE age.

****h$_a$eg^{w}hnos*** 'lamb'. [*IEW* 9 (**ag^{u}h-no-s*); Wat 1 (**ag^{w}h-no-*); GI 499 (**ag^{ho}no-*); Buck 3.29] OIr *ūan* 'lamb', Wels *oen* 'lamb' (Celtic as if < **h$_a$og^{w}nos*, with the vowel of

_*$h_2$óu̯is?_), Lat _agnus_ 'lamb', _avillus_ (< _*$h_a$eg^{w}nelo-_) 'lamb', OE _ēanian_ (as if < _*$h_a$eg^{w}no-_) 'to lamb' (> NE _yean_), OCS _(j)agnę_ 'lamb', Grk _ἀμνός_ 'lamb'. A word of at least the west and center of the IE world.

_*u̯r̥h_1ḗn_ (gen. **_*u̯r̥$h_1$nós_**) or **_*u̯(r̥)rḗn_** (gen. **_*u̯r̥nós_**) 'lamb'. [_IEW_ 1170 (_*u̯$_e$ren-_); GI 499 (_*wr-en-_); Buck 3.29]. Myc _we-re-ne-ja_ (= /wreneio/a-/) 'pertaining to a lamb', Grk _(ϝ)αρήν_ (gen. _(ϝ)αρνός_) 'lamb', (Tsakonian) _vanne_ 'lamb', Arm _gaṙn_ (gen. _gaṙin_) 'lamb', Av _varən-_ 'lamb', NPers _barra_ (< _*varnaka-_) 'lamb', OInd _úran-_ 'ram, sheep', _úraṇa-_ '(young) ram, sheep'. The Greek forms are slightly easier to derive from a form without a laryngeal while the Old Indic ones are somewhat easier to understand if we do start with a laryngeal. Related forms are Lith _vė̃ras_ 'lamb', Sogd _wr'n_ (< Proto-Iranian _*varāna-_, as if < PIE _*u̯ér(h_1)on-_) 'lamb', Oss _wær_ 'lamb', Roshani _warbōn_ (< _*vara(h)-pāna-_) 'fur-robe, sheepskin coat'. A word of the center and east of the IE world, overlapping the previous entry only in Greek.

_*$h_1$er-_ 'lamb, kid'. [_IEW_ 326 (_*er-_); Wat 17 (_*er-_); GI 500 (_*er(i)-_); Buck 3.26; BK 437 (_*ar-/*ər-_)]. OIr _erp_ 'goat; fallow deer', ScotsGael _earb_ 'roedeer' (Celtic < _*$h_1$er-bhih$_a$-_ ~ _*$h_1$er-bheh$_a$-_), Lat _ariēs_ (gen. _arietis_) 'ram', Umb _eriet-_ 'ram', OPrus _eristian_ 'lamb', Lith _ėras_ 'lamb', Latv _jē̦rs_ 'lamb', Grk _ἔριφος_ 'young goat (of either sex)', Arm _oroǰ_ (< _*eroǰ_) 'lamb', _erinǰ_ 'young cow', OInd _āreya-_ (< _*h_1ōrei̯o-_) 'ram'. Widespread and apparently old in the IE world.

*moisós 'ram, sheep; fleece, skin'. [_IEW_ 747 (_*moiso-s_)]. OPrus _moasis_ 'bellows', Lith _maĩšas_ 'bag, sack', Latv _màiss_ 'sack', OCS _měchŭ_ '(leather) sack', Rus _mekh_ 'skin, sack', Av _maēša-_ 'ram', _maēšī-_ 'ewe', OInd _meṣá-_ 'ram, sheep; fleece, skin', _meṣī́-_ 'ewe; fleece, skin'. Compare the derivative _*mois-to-_ in Hit _maista-_ '± bale of wool'. Widespread and old in IE. Cf. another derivative _*móisos_ in ON _meiss_ 'basket' and OHG _meis(s)a_ 'baggage'.

?*(s)k̂egos 'sheep/goat'. [Mayrhofer I, 558–559; Buck 3.25]. With the initial _*s-_ we have Oss _sæγ_ (< _*sk̂egeh$_a$-_) 'she-goat', Ashkun _čilū_ (< _*chagala-_) 'sheep', Wakhi _čeğ_ 'kid', OInd _chagalá-_ 'he-goat'; with lengthened grade we have OE _scēap_ 'sheep' (> NE _sheep_), OHG _schāf_ 'sheep' (Gmc _*skēpa-_ by dissimilation < _*skēka-_ < _*sk̂ēgom_), OInd _chága-_ 'he-goat', Marathi _sāgā_ (< _*chāgyā-_) 'flock of sheep'; without the initial _*s-_ we have MDutch _hoek(e)_ 'he-goat', OE _hēcen_ 'kid', MDutch _hoekijn_ 'kid, lamb' (< Proto-Gmc _*hōka(n)-_ and _hōkīna-_), ON _hǫkull_ 'priest's cloak, cope' (< *'goatskin'), OE _hacele_ 'cloak' (> NE _hackle_), OHG _hachul_ 'cloak', Goth _hakuls_ (< Proto-Gmc _*hakula-_). Not everyone would agree that the Germanic words for 'sheep' belong here, but this seems altogether the most likely source. Attestation in Germanic and Indo-Iranian would seem to guarantee PIE status for this word.

Archaeological Evidence

The wild sheep, the Asiatic mouflon (_Ovis orientalis_) which is primarily confined to western Asia, is the probable ancestor of most domestic sheep along with the possible contribution of the urial sheep (_Ovis vignei_) of north Iran to northwest India. Domestication of wild sheep probably took place about the same time or slightly later than the goat, i.e., c 8000 BC in Iraq and Iran and it appears in neighboring regions, including India, by the seventh millennium. The domestic sheep (_Ovis aries_) predominates in the early Neolithic fauna of southeast Europe in the seventh and sixth millennia and also appears contemporaneously in the Caucasus and perhaps even the southern Urals. In general, the earliest waves of domestic sheep spread through Europe and their proportion as a part of the Neolithic herd or flock decreases with distance such that they are frequently of tertiary importance (after cattle and pig) in central, western, and northern Europe.

The semantic field of the words for 'sheep' is interesting and in considerable contrast to the terms for 'goat'. In the latter case, there are many words for 'goat' that appear to be geographically restricted. On the other hand, a single term _*$h_2$óu̯is_ 'sheep' is virtually ubiquitous across the IE world and other than _?*(s)k̂egos_ 'sheep/goat', all other terms, whether widespread or regionally confined, refer to the young sheep rather than replicate the meaning 'sheep'. One might have expected more words for the '(adult or generic) sheep' since variation among prehistoric sheep was every much as great as among goats. For example, in addition to the domestic sheep, varieties of wild sheep lived alongside various IE stocks. Although the domestic sheep (_Ovis aries_) may derive from the Asiatic mouflon (_Ovis orientalis_), the latter did not become extinct but still survives from the upland regions of Anatolia to the southeast as far as southern Iran. Another wild variety, the urial sheep (_Ovis vignei_) is found distributed from eastern Iran, across northern Afghanistan to northwest India while the arkhar or argali sheep (_Ovis ammon_) occupies highland Central Asia, including the Altai, Pamirs, Tien Shan and Himalayas. In Europe, the major alternative to the domesticated sheep is the European mouflon (_Ovis musimon_) which is usually taken to be a feral sheep of the western Mediterranean that developed from the earliest domestic sheep that were introduced in this region.

In addition to the distinction between the domestic and the various wild sheep of different regions, there is also variation within the domestic sheep as well. These variations may comprise changes in the appearance of the horns and the tails but most important is the alteration in the fleece of the sheep. The earliest domestic sheep would appear to have been exploited for their meat and probably their milk but not their wool as the latter had not yet been developed. Primitive and wild sheep have their fine underwool obscured by long course kemps which required generations of selective breeding to reduce and alter into finer wool which could be exploited as a textile. Generally, textiles of any sort from the early Neolithic tend to be made from plant fibre; wool only appears toward the end of the Neolithic and in the Bronze Age. The appearance of the larger woolly sheep has generally been linked to either developments in the Near East which spread across Anatolia into Europe or, alternatively, began north of

the Caucasus and spread westwards. In both cases, a larger variety of sheep, some 10 cm taller than the early Neolithic sheep, began to appear in an east to west spread. Since there is clearly a PIE word for 'wool', it is possible that the most widespread word for 'sheep' among the IE stocks, **$h_2$óu̯is*, may have referred to the later and larger woolly sheep rather than that of the early Neolithic. Alternatively, the word may derive from the early Neolithic and have been reapplied to the later variety of sheep *c* 4000-3000 BC.

Sheep in Indo-European Ritual

Unlike cattle, horse, and perhaps even the pig and goat, there is no great body of ritual literature or comparative myth relevant to the sheep that would appear to be of PIE antiquity. It may have been its very abundance in the economies of many of the IE peoples, its docile behavior, or the nature of its secondary products (wool, milk, hides rather than traction) that accounts for its apparent lack of mythic valency. For example, in the *Avesta* (Yast 25.5), when the animals to be sacrificed to Arədvī are recited, they are apparently listed in descending order of importance, i.e., a hundred stallions, a thousand cattle, and ten thousand sheep. Nevertheless, in trifunctional sacrifices such as that mentioned in the *Avesta*, the sheep or a ram is not only a regular component but its place is often at the head, e.g., in the Old Indic *sautrāmaṇī*, it is the deity representing the priest class, Sarasvatī, who receives the ram while the warlike Indra is offered a bull and the Aśvins, the representatives of the third estate, are presented with a he-goat. In the Roman *suovetaurilia*, the sheep is sacrificed along with a pig and bull.

Another ritual role for the sheep is seen in its frequency as either a grave good or remains of a funeral feast deposited with the deceased. Of the main sacrificed animals of the Pontic Kurgan tradition, i.e., the Yamna and Catacomb cultures, sheep is the most frequently sacrificed animal comprising nearly 60% of the remains, followed by cattle and then horse. Here the parts of the sheep deposited exhibit recurrent patterns. Children are provided with the *astragali* or knucklebones of the sheep while adults may have a skull, foot bones or apparently a joint. On occasion there were the remains of both the skull and the forelegs which would reflect a "head and hooves" deposit where the forepart of the animal may have been initially raised on a pole with skin intact (cf. the Golden Fleece of the Argonaut tale).

See also ANIMAL; GOAT; MAMMALS; WOOL. [D.Q.A., J.P.M.]

Further Readings

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SHELLFISH

karkr(o)- 'crab'. [*IEW* 531 (**karkar-*); Wat 27 (**kar-*); GI 451 (**kʰarkʰar-*); BK 268 (**k[ʰ]ar-*)]. Lat *cancer* (dissimilated from **karkro-?*) 'crab, lobster', Grk **καρκίνος** (dissimilated from **karkrino-?*) 'crab', OInd *karkaṭa-* (a Middle Indicism for **karkr̥ṭa-* or a borrowing from some non-IE source?) 'crab'. OCS *rakŭ* 'crab' is sometimes put here as well, under the doubtful assumption that it reflects dissimilatory loss from **krakŭ*. Probably a word of PIE date. From **kar-* 'hard'; cf. OInd *karkara-* 'hard'.

kḿ̥h$_a$ros 'crayfish'. [*IEW* 558 (**k$_e$mer-*)]. ON *humarr* 'lobster', Grk ***κάμ(μ)αρος* ~ *καμμαρίς*** a kind of lobster. Sometimes put here, but surely wrongly, is OInd *kamaṭha-* 'tortoise'. **kḿ̥h$_a$ros* looks like a noun created from an adjective, i.e., **km̥h$_a$rós*, by accent retraction but such a morphological explanation does not seem to point to any corresponding semantic elucidation. The seemingly exact semantic equation between Old Norse and Greek is probably an illusion. The Proto-Indo-Europeans, wherever they may have lived, undoubtedly had an inland orientation rather than a marine one. Thus it is likely that both Old Norse and Greek have transferred an inherited word, one found at least in the west and center of the IE world, from the fresh-water crayfish to the much larger and more important marine lobster.

k̂onkh$_2$os 'mussel (-shell) (= *Unio* spp.) and related genera'. [*IEW* 614 (**k̂onkho-*); Wat 32 (**konk(h)o-*); GI 28 **Konkʰo-*)]. Grk ***κόγχος* ~ *κόγχη*** 'mussel' perhaps also 'cockle (= *Cardium edule*); mussel-shell', OInd *śaṅkhá-* '(conch-) shell'. Latv *sence* 'mussel' (~ *zence* ~ *zencis* with secondary *z-*) reflects a derived **k̂enkh$_2$i̯os* with a new full-grade. Grk ***κόχλος*** 'shell-fish with a spiral shell (used for dyeing purple)' no doubt belongs here too though just how remains an open question (**kónkhos* > **kókhnos* > **kókhlos?*). Though often taken as borrowings from some non-IE source in those languages where they are attested, there seems to be no particular reasons to assume that these attestations do not reflect a common inheritance of a word at least of the IE center and east. Formally it looks like an *o*-stem derivative of a **k̂onk(e)h$_2$-* (< **k̂onk-* 'hang'). Shell-bead necklaces are known since the Palaeolithic. Since the use of mussel-shell included the making of beads, which were strung to make necklaces and the like, it is possible that the semantic development ~~ran~~ *'that which hangs' > *'bead(-material)' > *'shell' > 'mussel'.

See also ANIMAL. [D.Q.A.]

SHIELD

sk̂éits (gen. ***skitós***) 'shield, board'. [*IEW* 921 (**skai-to-*); Wat 58–59 (**skei-*); Buck 20.34]. OIr *sciath* 'shield', Wels *ysgwyd* 'shield', OE *scīd* 'thin slip of wood, shingle', OHG *scīt* 'board, plank', OCS *štitŭ* 'shield'; a derived **skoitom* with a new full-grade is seen in Lat *scūtum* 'shield', OPrus *staytan* (probably a miswriting for **scaytan*) 'shield'. At least a word of the northwest of the IE world.

spelo/eh$_a$- 'shield'. [*IEW* 985–987 (**sp(h)el-tā*); cf. Wat

63 (*spel-); GI 643 (*phol-)]. ON fiǫl 'board', possibly Luv palahsa- '± blanket, coat', OPers σπαρα-βάραι 'shield-bearing', MPers ispar 'shield', OInd phálakam 'shield, board'. Derived from *(s)p(h)el- 'strip, tear off'.

As the earliest shields would have been made entirely out of organic material, either split planks of wood or animal hide, their preservation in the archaeological record occurs only under exceptional circumstances. One of the earliest objects to be proposed as a shield derives from a Globular Amphora burial dating to about 3000 BC. Although this find considerably predates the general appearance of shields in Europe, which are normally found coincidental with the emergence of the bronze sword as a weapon, there is nothing ethnographically unexpected about this; the Maring of New Guinea, for example, whose own offensive weapons (bow, spear, polished stone ax) perfectly parallel those of the Neolithic in Eurasia, defended themselves with large wooden shields. But most evidence in Eurasia does come from a later date. Shields appear on Egyptian figures of the early second millennium BC and in the Aegean they are known from Mycenaean Greece c 1500–1100 BC where both large rectangular ("tower") and figure-of-eight-shaped shields are depicted in artwork (and later small round shields appear). In general, shields appear in the rest of Europe from the later Bronze Age, i.e., c 1200–700 BC, and may be of either organic material or bronze. Both lexical items of some IE antiquity derive from verbal roots to 'split' or 'tear off' and suggest that the original referent was either a wooden shield or one fashioned from leather. The latter would be formed by stretching leather across a wooden mold and both experimental archaeology and depictions of its use in the *Iliad* attest to the utility of the leather shield.

See also PLANK; WARFARE. [D.Q.A., J.P.M.]

SHINE

***leuk-** 'shine'. [IEW 687–688 (*leuk-); Wat 37 (*leuk-); GI 40; Buck 1.61, 15.56; BK 580 (*law-/*ləw-)]. Intransitive presents: Lat lūceō 'shine', Hit lukke- 'shine', OInd rócate 'shines' (Latin and Hittite agree on PIE *leuk-eh$_1$-; the OInd *leuk-e/o- must be a newer formation); transitive presents (PIE *loukéi̯e/o-): Lat lūceō 'kindle', Hit lukke- 'kindle', Av raočayeiti 'makes shine', OInd rocáyati 'makes shine'. The derivatives, both nouns and adjectives, are many: without any special enlargement we have MIr lōch 'shining', Wels llug (noun) 'light' (Celtic < *louko-), Lat lūx (noun) 'light', lucerna 'lamp', ON logi 'blaze', leygr 'flame, blaze', OE līeg 'flame, blaze', OHG loug 'flame, blaze' (the last three < *louki̯ó-), OE lēah (< *lóuko-) 'meadow' (< *'opening to the light') (> NE lea), OCS luča 'gleam', lučĭ 'ray of light', Grk ἀμφιλύκη 'twilight', λευκός 'white', Hit lalukkima 'source of light', OInd rocá- 'shining, radiant', TochB lyūke (noun) 'light'; from *l(e)uk-m(en)-: ON ljōmi 'radiance', OE lēoma 'radiance', OInd rukmá- 'gold decoration'; from *l(e)uk-(e)s-: OIr lūan (< *louksno-) 'moon', Lat lūmen (< *leuksmen-) 'light, opening', lūstrum (< *leukstro-) 'purification', lūna (< *louksneh$_a$-) 'moon', OPrus (pl.) lauxnos 'stars', OCS luna (< *louksneh$_a$-) 'moon', Grk λύχνος (< *luksno-) 'lamp', OPers raučah- 'day', Av raočah- (noun) 'light', (adj.) 'bright', OInd rukṣá- 'gleaming', rocíṣ- (noun) 'light', lócas- 'radiance'; from *leuk(e)t-: Gaul Loucetius ~ Leucetius 'light-bringer' (epithet of Mārs), Osc Loucetius 'light-bringer' (epithet of Jūpiter), OE lēoht (noun) 'light' (> NE light), OHG lioht (noun) 'light', Goth liuhaþ (noun) 'light', Hit lukkatta 'on the next morning'. A variant *leuḱ- is seen in OCS vŭz-lysŭ 'bald', Arm loys (gen. lusoy) (noun) 'light', OInd rúśant- 'light'. Widespread and old in IE; *the* word for the shining of the sun.

***dei-** 'shine, be bright (primarily of the sky?)'. [IEW 183–184 (*dei-); Wat 10 (*deiw-); GI 196; BK 119 (*t'ay-/*t'əy-)]. ON teitr 'glad', OE tǣtan 'gladden, cheer', OHG zeiz 'delicate', Grk δέατο 'is seen', δέελος 'visible', OInd dídeti 'shines, is bright'. Enlarged by *-u- we have *di̯ḗus 'Jūpiter' and the further derivative *déi̯u̯os 'god'. Though not widely attested itself, the fact that its derivate *di̯eu- in *di̯ḗus and *déi̯u̯os means that this word is very old and has suffered replacement in most parts of the IE world.

***lap-** 'shine'. [IEW 652–653 (*lā[i]p-); Wat 35 (*lāp-); Buck 15.56]. OIr lasaid 'flames', Wels llachar 'shining' (Celtic < *lap-s-), OPrus lopis 'flame', Lith lópė 'torch, light', Latv lāpa 'torch', Grk λάμπω 'give light, shine; ring loud and clear', λοφνίς (< *lop-s-ni- with new full-grade) 'torch', Hit lāpzi 'glows', lap(pa)nuzi 'kindles'. Widespread and old in IE.

***bheh$_2$-** 'shine' (pres. ***bhéh$_2$ti**). [IEW 104 (*bhā-); Wat 5 (*bhā-); Buck 1.61, 15.56; BK 20 (*bah-/*bəh-)]. OIr bān 'white', OE bōnian 'ornament, polish', ?Rus bas 'ornament, decoration', Alb bej 'make, do' (< 'bring to light'), Grk φαίνω 'bring to light', φαίνομαι 'appear' (Albanian and Greek < *bhh̥$_2$-ni̯e/o-), Luv piha- (< *bhéh$_2$-) 'splendor, might', Av bā- 'shine', bānu- 'light, ray of light', OInd bháti 'shines', bhānú- 'light, appearance, ray of light', bhás- 'light, splendor', bhásati 'shines, is bright'. Widespread and old in IE.

***bhleg-** 'burn, shine' (pres. ***bhlégti**, pl. ***bhl̥géntí**). [IEW 124–125 (*bheleg-), 139 (*bherəǵ-); Wat 6 (*bhel-); Buck 1.55; BK 15 (*bal^y-/*bəl^y-)]. Lat fulgō 'lighten', flamma (< *flagmā) 'flame', fulmen (< *bhl̥gmen-) 'lightning, thunderbolt', OE blæc 'black' (< *bhlogo- 'burned') (> NE black), OHG blecchen 'be visible', Grk φλέγω 'burn', φλέγμα 'flame', φλόξ 'flame, torch', Av brāzaiti 'gleams, shines', OInd bhrājate 'gleams, shines, glitters' (if the Indo-Iranian words do not belong with the following entry), TochAB pälk- 'shine'. Widespread and old in IE.

***bherh$_x$ǵ-** 'shine, gleam'. [IEW 139 (*bherəǵ-); Wat 7 (*bherəg-); GI 532 (*b^{h}erHḱ-); Buck 15.56, 15.57; BK 16 (*bar-/*bər-)]. Wels berth 'shiny', ON bjartr 'light', OE beorht 'shiny, brilliant, light, clear' (> NE bright), OHG beraht 'shiny', Goth bairhts 'bright, shiny' (Celtic and Germanic < *bherh$_x$ǵto-), Lith brékšta 'dawns' (with apparent *-g- rather than *-ǵ-), Pol brzask 'dawn', Alb bardhë (< *bhr̥h$_x$ǵ-) 'white', perhaps Av brāzaiti 'shines' and OInd bhrājate 'shines, beams, glitters' (if they do not belong with the previous entry).

Widespread and old in IE. Related to the word for the 'birch'.

(s)kand- 'shine, glitter (particularly of the moon)'. [*IEW* 526 (**kand-* ~ **skand-*); Wat 27 (**kand-*); Buck 15.56]. Wels *cann* 'white, bright', MBret *cann* 'full moon', Lat *candeō* 'glitter, shine', *candidus* 'shining white, clear, bright', *candidātus* 'candidate for office' (< 'one clothed in a white toga'), *incendere* 'kindle', Alb *hënë* (< **skandneh*$_a$*-*) 'moon', Grk (Hesychius) κάνδαρος 'coal', OInd *cándati* 'shines, is bright', *candrá-* ~ *ścandrá-* 'shining; moon'. Widespread and old in IE.

su̯eid- 'shine'. [*IEW* 104 (**su̯eid-*); Wat 68 (**sweid-*)]. Lat *sīdus* (gen. *sīderis*) 'constellation, star', *consīderō* 'examine' (< an augural term *'observe the stars carefully'), OE *switol* 'distinct, clear; open, public', Lith *svidù* 'shine, am glossy', *svidùs* 'shiny, glossy', *svindù* 'break (of the day)', Latv *svīst* 'breaks (of the day)', Av *x*^{v}*aēna-* 'glowing'. Widespread and old in IE.

mer- 'shine, shimmer'. [*IEW* 733 (**mer-*); Wat 42 (**mer-*)]. Lat *merus* 'pure, bare', ON *mura* 'silver-weed', OE *ā-merian* 'test, examine; purify, refine', Rus *mar* 'blaze of the sun', Grk μαρμαίρω 'shimmer', **Μαῖρα** 'Sirius' (< *'the shimmerer'), μαρῖλη 'glowing ashes', OInd *márīci-* 'shining mote, beam of light'. Widespread and old in IE.

k̂euk- 'shine, burn'. [*IEW* 597 (**k̂euk-*); Wat 31 (**keuk-*); GI 84–85 (**k̂*^{h}*euk*^{h}*-*); Buck 15.56]. Grk κύκνος 'swan' (< *'the white one'), Av *soč-* 'burn, flame', *ātrə-saoka-* 'firebrand', *saočinvant-* 'burning with a bright flame', Khot *sūjs-* 'burn', *va-sūj-* 'purify', OInd *śócati* 'shines, glows, burns', *śúc-* 'light, glow, flame', *śóka-* 'light, flame', *śoká-* 'glowing', *śocíṣ-* 'light, flame', *śukrá-* 'light, bright, white', TochB *śukye* 'shining'. A word of the center and east of the IE world.

ĝher- 'shine, glow'. [*IEW* 441–442 (**ĝher-*); Wat 22 (**gher-*)]. ON *grār* 'gray', OE *grǣg* 'gray' (> NE *gray*), OHG *grāo* 'gray' (Gmc < **ĝrēu̯o-*), OPrus *sari* 'glow', Lith *žeriù* 'shine', *žėrúoti* 'glow, be glowing; sparkle, glitter', OCS *zĭrjǫ* 'see, glance', Rus *zretĭ* 'see'. The underlying verb is attested in only Baltic and Slavic; a derivative in Germanic. A word of the northwest IE area.

$h_2$eug- 'shine, become bright'. [*IEW* 87 (**aug-*); Wat 4 (**aug-*)]. Alb *agon* 'dawns', *agim* 'dawn, morning', Grk αὐγή 'beam of light', αὐγάζω 'shine, brighten'. A word restricted to the center of the IE world.

?*(s)plend-* 'shine'. [*IEW* 987 (**(s)p(h)el-*); Wat 63 (**spel-*); Buck 15.56]. OIr *lēs* (< **plend-tu-*) 'light', Lat *splendeō* 'shine, glitter; am glorious', Lith *spléndžiu* 'light' (though this word is not well established), TochAB *plāntā-* 'rejoice, be glad' (< *'be shining'). The sparse attestations are geographically widespread, the existence of the (Old) Lithuanian word is not well-assured, and the Tocharian is semantically a bit distant (though the change of 'shine' to 'joy' is documented in many other cases). If all these words belong together we have a good case for a late PIE status for this lexeme.

?*leip-* 'light, cause to shine'. [*IEW* 653 (**lā[i]p-*)]. ON *leiptr* 'lightening', Lith *liepsnà* 'flame, blaze', Latv *lipt* 'light'. Perhaps a word of the IE northwest.

?*bherk̂-* 'shine'. [*IEW* 141–142 (**bherək̂-*); Wat 8 (**bherək-*); BK 16 (**bar-/*bər-*)]. OIr *brecc* 'speckled', Wels *brych* 'speckled', ON *brjā* 'light up', Grk (Hesychius) φόρκος 'white, gray', Hit *parkuis* 'clean', OInd *bhrā́śate* 'shines, glitters'. Semantically and phonologically similar to **bherh*$_x$*ĝ-* but it is anything but certain that all these words belong together. Doubtful PIE status.

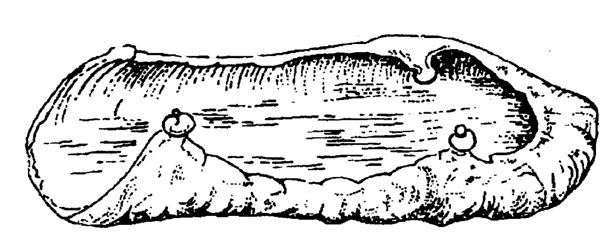
??*ĝhu̯oig*^{w}*os* 'radiant'. [*IEW* 495 (**ĝhu̯ōk*^{u}*-*); Buck 1.54]. Lith *žvaigždė̃* 'star', Latv *zvàigzne* 'star', OCS *dzvězda* 'star', Rus *zvezdá* 'star' (the Balto-Slavic words for 'star' may reflect a PIE **ĝhu̯oig*^{w}*-dheh*$_1$*-* 'radiance-putter' or the like), Grk φοῖβος 'pure, bright, radiant (of water or flame)'. The connection of the Greek word with the Balto-Slavic words is most tenuous. Very probably the Balto-Slavic words for 'star' reflect a Balto-Slavic innovation that has nothing to do with the otherwise isolated Greek word.

See also BIRCH; BURN; COLOR; LIGHT; SEE; WHITE. [D.Q.A.]

SHOE

kr̥h₁pís 'shoe'. [*IEW* 581 (**kerəp-*); Buck 6.51]. OIr *cairem* 'shoemaker', Wels *crydd* 'shoemaker', Late Lat *carpisculum* 'kind of shoe' (quite probably a loanword from some [IE] source), OPrus *kurpe* 'shoe', Lith *kùrpė* 'shoe', Latv *kur̃pe* 'shoe', OCS *krŭpa* 'patches', SC *kȑplje* 'snowshoe', Grk κρηπίς 'shoe'. If ON *hriflingr* 'shoe', OE *rifeling* (< **hrifeling*) 'shoe' belong here, they reflect a Germanic innovation **href-* (as if from PIE **krep-*). The strong phonological, morphological, and semantic agreement of at least four IE stocks seems to assure at least a word of the west and center of the IE world. This word is commonly understood as an extension of the root **(s)ker-* 'cut' where it would indicate footwear that has been fashioned from leather rather than woven from bast. The latter is attested, for example, at least since the Neolithic where sandals or the soles of shoes, woven from the bast of oak or lime trees, have been recovered from Alpine lake-side settlements. Leather shoes are also attested since the Neolithic, e.g., the oldest European leather shoe was recovered from a Dutch bog and dates to *c* 2500 BC and similar leather shoes are regularly attested in later periods. The shoes of Ötzi, the Tyrolian Iceman, which date back to *c* 3300 BC, had soles of leather while the uppers were probably fur and the entire shoe strapped up with knotted grass cord.

The shoe or sandal may also have served as an item of IE ritual. The evidence for this is both iconographic and mythological. The latter is suggested by a curious parallel between the Old Indic *rājasūya*, the investment of a king, and an early Irish tale. In the Old Indic ritual, the designated king is presented with the vestment of a priest, three arrows and shoes fashioned from the skin of a boar. In the Irish "Life of St Maedoc", a king is invested with a silk shirt, a spear (the bow and arrow were very rarely employed by the early medieval Irish) and shoes filled with silver. D. Dubuisson has suggested that the three talismans were indicative of the three Dumezilian "functions", i.e., priest (white vestments), warrior



Shoe Neolithic sandal.

(weapons) and herder-cultivators where the shoes were symbolic of sexuality and fertility.

The iconographic evidence is to be seen in the stone stelae of the Pontic-Caspian region, and more rarely in western Europe, where a motif, commonly regarded as the impressions of paired feet, sandals or shoes are found on anthropomorphic stelae. In the Ukraine they may be found on the front or rear of the stelae, sometimes apparently inserted behind a belt. They can be variously interpreted as shorthand for the position of a figure (either in a standing or kneeling position), or symbolic. On occasion they are found on figures also displaying weapons and other signs which might suggest some correspondence with the royal investiture motifs but such combinations do not occur sufficiently often or in such clear association as to be regarded as canonical and they are just as likely to be fortuitous.

See also STELAE. [D.Q.A., J.P.M]

Further Readings

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SHOOT

?*h$_a$enkulos 'shoot'. [*IEW* 45–46 (**anku-lo-*)]. ON *ōll* (< Proto-Gmc **anhula-*) 'bud, shoot', OInd *aṅkurá-* 'young shoot'. The apparent identity of form and meaning in these two attested words suggests at least that the reconstructed word was a part of the PIE vocabulary. Perhaps a derivative from **h$_a$enk-* 'bend' and thus related to Grk *ἀγκύλος* 'crooked'.

See also BEND; BRANCH; PLANTS. [D.Q.A.]

SHORE

****h$_a$eh$_x$peros*** (?) 'river bank, shore of sea'. [*IEW* 53 (**āpero-*); Wat 3 (**āpero-*)]. OE *ōfer* (masc.), *œfer* (fem.), *œfre* (neut.) 'bank', MHG *uover* (neut.) 'bank' (< Gmc **ōbera-*), Grk *ἤπειρος* (fem.), (Aeolic) *ἄπερρος* (< **āperios*) 'shore', ?Arm *ap'n* 'shore'. The Greek word is feminine while Germanic has all genders (the masculine and neuter may easily have replaced the feminine *-os*). In Middle and High German the word is recent which suggests that it is a North Sea-Germanic word, possibly from peoples living along the sea-coast. It is hard to exclude the Armenian form from the rest although the *p'* is left unexplained (< **ph$_x$?*). A reconstruction like **āper-* may be **h$_a$ēper-*, a vṛddhi-derivation from a form like OInd *ápara-* 'farther, later', Goth *afar* 'later', but this particular derivation, which would yield something like 'the region which, seen from inland/the interior, lies backwards/lower', is semantically unconvincing and the stress would also be unusual; the Armenian form would not in this case be cognate. Otherwise we must posit a root **h$_a$eh$_x$per-* or **h$_x$eh$_a$per-*. The unusual structure of such a root makes it useful to reconsider the old etymology that the word contains the "prefix" found in OInd *á* and a word for 'shore' as in OInd *pārá-* (< **por-o-*). However, this substantive does not appear to be old. Perhaps the word was an adjective of 'land', with **per-* 'to cross', i.e., '(the land) towards which one crosses over', which might explain the feminine gender of the *o*-stem (but which would again exclude the Armenian word as a cognate).

?*moleh$_a$- 'shore'. [*IEW* 721–722 (**molā*); BK 550 (**mal-/*məl-*)]. Lith *malà* 'land', *pamalis* 'border, surrounding', *jū́rmala* 'sea-coast', Latv *mala* 'border, rim, shore', *jūrmala* 'sea-coast'. The meaning 'shore' in Baltic is secondary and derives from 'border'. Although presented as cognate, Grk *προμολή* 'approach, foot of mountain, mouth of river' carries meanings that are late and do not support a primary meaning of 'shore'. Probably from **melh$_3$-* 'appear, come forward' but this offers no evidence for a PIE word for 'shore'.

See also LAKE; RIVER; SEA. [R.S.P.B.]

SHORT

****mṛĝhus*** ~ ****mreĝh-*** 'short (both temporal and spatial)'. [*IEW* 750–751 (**mreĝhu-*); Wat 43 (**mregh-u-*); GI 685 (**mreĝhu-*); Buck 12.59]. Lat *brevis* (? **mregh-* with **mr-* > *br-*) 'short, brief', OE *myrge* 'pleasantly, leisurely', OHG *murgi* 'short', Goth *gamaúrgjan* 'shorten', Grk *βραχύς* 'short (of time or space)', Av *mərəzu-* 'short', OInd *múhu-* (with Middle Indian phonological development) 'suddenly, shortly'. Connections to Slavic words for 'fast' (cf. Rus *bórzyj*) have been proposed but are very unlikely. Even without the insecure Latin and Slavic connections, PIE status is likely.

?*ĝher- 'less, short'. [*IEW* 443 (**ĝher-*); GI 199 (**ĝ^{h}r-es-*); Buck 12.59]. OIr *gerr* ~ *gair* 'short', Grk *χείρων* 'worse, weaker', Av *hrasvá-* 'less, short', OInd *hrasati* 'becomes smaller'. More recent sources have regarded the association between the Greek and Indic forms as uncertain leaving this form very sparsely supported.

See also HEAVY; LESS; SMALL. [J.C.S.]

SHOULDER

****h$_{1/4}$ómsos*** 'shoulder'. [*IEW* 778 (**om(e)so-s*); Wat 46 (**omeso-*); Buck 4.30]. Lat *umerus* 'shoulder', ON *āss*

'mountain-ridge', Goth ams 'shoulder', Grk ὦμος (< *$h_{1/4}$ōmsos) 'shoulder', Arm us 'shoulder', Hit an(as)sa- 'hips, buttocks' or 'upper back', OInd áṃsa- 'shoulder', TochA es 'shoulder', TochB āntse 'shoulder' (Toch < *$h_{1/4}$ōmsos). The oldest reconstructible word for 'shoulder' in IE.

*(s)k̂up- 'shoulder'. [IEW 627 (*k̂up-); Buck 4.30]. MLG schuft (< *sk̂up-tu-) 'shoulder blade of cow or horse', Alb sup (< *k̂up-o-) 'shoulder', Av supti- 'shoulder', OInd śúpti- 'shoulder'. Though not so widely attested, this word too would appear to be old in IE. Perhaps the MLG schuft preserves the older meaning here.

*$h_a$ek̂s- 'shoulder(-joint); axle', *$h_a$ek̂sleh$_a$- 'shoulder'. [IEW 6 (*aĝes-, *ak̂s); Wat 1 (*aks-); GI 625 (*Hak̂^{h}s-); Buck 4.30]. Lat axis 'axle, axis', OE eax 'axle, axis', OHG ahsa 'axle, axis', OPrus assis 'axle, axis', Lith ašìs 'axle, axis', OCS osĭ 'axle, axis', Grk ἄξων 'axle, axis', Av ašayå (dual) 'shoulders', OInd ákṣa- 'axle, axis'. Lat āla (< *$h_a$ek̂sleh$_a$-) 'shoulder, wing, axilla' (< *$h_a$ek̂sloleh$_a$-) 'armpit', ON ǫxl 'shoulder', OE eaxl 'shoulder' (> NE axle), OHG ahsala 'shoulder' (all < Proto-Gmc *ahslā-), NDutch oksel (< *ōhsla-) 'shoulder', OE ōxn 'armpit', OHG uochsana 'armpit'. The underlying noun *$h_a$ek̂s- has come to mean only 'axle' except in Avestan. The derivative *$h_a$ek̂sleh$_a$- has better retained what is probably the original PIE meaning 'shoulder' (cf. the relationship of 'nave' and 'navel'). Further derivatives in Germanic and Latin mean 'armpit'. Certainly of PIE date.

*pl(e)t- 'shoulder(-blade)'. [IEW 833–834 (*plāt-); cf. Wat 51–52 (*plat-); Buck 4.31]. MIr leithe (< *pletieh$_a$-) 'shoulder', OCS plešte 'shoulder', Rus plečó 'shoulder' (Slavic < *pletio-), Grk ὠμοπλάτη 'shoulder-blade', Hit paltāna- 'shoulder'. From *plet- 'broad'. Though different in morphological formation, the widespread attestation suggests that the derivation as a whole is of high antiquity in PIE.

See also ANATOMY; ARM; AXLE; ELBOW; JOINT. [D.Q.A.]

SHOW

*deik̂- 'show'. [IEW 188–189 (*deik̂-); Wat 10 (*deik-); GI 32 (*t'eik̂^{h}-); Buck 15.55]. Lat dīcō 'say', ON téa ~ tjá 'show, report', OE tēon 'accuse', OHG zīhan 'accuse', zeigōn 'show', Goth ga-teihan 'announce', Grk δείκνυμι 'show', Av disyeiti ~ daēsayeiti 'shows', OInd diśáti ~ deśayati 'shows'. Cf. the widespread derivatives: (1) *dik̂tis in OE tiht 'accusation', OHG bi-ziht 'accusation', Av ā-dišti- 'instruction', OInd diṣṭi- 'instruction'; (2) *doik̂ós in ON teigr 'strip of land', OInd deśá- 'direction'; (3) *dik̂eh$_a$- in Grk δίκη 'justice', OInd diśā 'direction'. Though not found in Hittite and Tocharian, this word is otherwise widespread and surely old in IE.

*d(h)ek^w- 'show' (pres. *d(h)ek^w-se/o-). Hit tekkussa- (= tek^{w}sa-) 'show', Av daxša- 'teach, show'. Isolated in Hittite and Avestan but the exact coincidence of present formation would seem to guarantee at least a late PIE status for this word.

*bhoudhéie/o- 'waken, point out'. [IEW 150 (*bheudh-); Wat 8 (*bheudh-); BK 1 (*baw-/*bəw-)]. Lith baudžiù 'wakens', OCS buditi 'wakens', Av baoδayeiti 'indicates', OInd bodháyati 'wakens'. The causative of *bheudh- 'pay attention'. At least a late derivative of the central area.

See also WATCH. [D.Q.A.]

SHREW

?*su̯(o)r- ~ *su̯oraks 'shrew (Neomys fodiens, Sorex spp., Crocidura spp.)'. [IEW 1049–1050 (*su̯er-); GI 845]. From *su̯(o)r-: Latv sussuris ~ susers 'shrew', Bulg səsar 'shrew'; from *su̯oraks: Lat sōrex (< *su̯ōrak-) 'shrew', Grk ὕραξ (< *surak-) 'shrew'. Cf. Rus surók 'marmot'. This represents a possible late PIE word for 'shrew', presumably so called after its piping sound (cf. the related NE swarm [of bees] or Lat susurrus 'humming, murmuring, whispering'). The cognates suggest that the animal in question is not the common shrew (Sorex araneus) which is found over most of Europe except for the Mediterranean. Those whose range includes both that of Italy and Greece would comprise the pygmy shrew (Sorex minutus) and the lesser white-toothed shrew (Crocidura suaveolens) while the water shrew (Neomys fodiens) is found in Italy but not in Greece.

See also MAMMALS. [D.Q.A.]

SHRINK

*tenk- 'shrink, become compact, make thick'. [IEW 1068 (*tenk-); Wat 70 (*tenk-)]. MIr tēcht (< *tenkto-) 'coagulated', ON þēl (< *tenklo-) 'buttermilk', Lith tánkus 'thick, copious', Pashto tat (< *tahta- < *tn̥kto-) 'thick', NPers talxīna 'sour milk', tanjīdan 'pull together', OInd tanákti 'pulls together', a-tanákti 'makes curdle', takrám (< *tn̥klóm) 'buttermilk', TochA täṅki 'very, fully; full, blocked', TochB taṅki 'very, fully; full, blocked' (Toch < *tn̥k- '± thick' + a Proto-Toch suffix *-i). Widespread and old in IE.

*reuk/g- 'shrink, wrinkle up'. [cf. IEW 869–870 (*reuk/g-)]. Lat rūga 'wrinkle', Lith runkù 'shrivel, become wrinkled', TochB ruk- 'grow lean (with hunger)'. Not as widespread as the previous word, but probably also old in IE.

See also MILK. [D.Q.A.]

SICK

*su̯ergh- 'be ill'. [cf. IEW 1051 (*su̯ergh-); Wat 68 (*swergh-); GI 105; Buck 4.84]. OIr serg (< *su̯erghos) 'illness, diminishment', Lith sergù 'am sick' (sirgti 'to be sick'), Latv sęrg 'is ailing', sęrga 'illness; be sick', Alb dergjem (< *su̯orgheie/o-) 'lie ill, be bed-ridden', TochA sārk 'illness', TochB sark 'illness'. Distribution indicates PIE status.

*$h_3$lígos 'ill; bad'. [IEW 667 (*oleig-/k-)]. Lith ligà 'illness', Latv liga 'severe illness, pestilence', Alb lig 'bad; ill; thin, skinny', Grk ὀλίγος 'few', TochA lykäly 'small, fine', TochB lykaśke 'small, fine'. Cf. OIr líach 'suffering, unfortunate', Lith nu-líegti 'fall ill', and Grk λοιγός (with loss of *h_3- as sometimes before *-o-) 'ruin, harm, death'. A strong candidate for PIE status.

*$h_1$ermen- 'sickness'. [Puhvel I: 160]. ON armr 'wretched, wicked', OE earm 'weak, wretched', OHG arm 'poor', Goth arms 'pitiable, poor', arma-hairts 'merciful' (Gmc <

*h_1*ormo-*), Alb *jerm* 'stupor, delirium caused by high fever', Arm *ołorm* (< **or-orm*) 'pity, compassion', Hit *arman-* ~ *ērman-* 'sickness'. Spottily attested, but surely of PIE age.

***seug-** 'be sick; take care of sick?'. [*IEW* 915 (**seug-*); Buck 4.84]. ON *sjūkr* 'sick', OE *sēoc* 'sick' (> NE *sick*), OHG *sioh* 'sick', *suht* 'sickness', Goth *siuks* 'sick', *saúhts* 'sickness', Arm *hiwcanim* 'sicken'. Though only certainly attested in Germanic and Armenian, very probably at least dialectal in late PIE. A younger word than the preceding ones.

***sokto-** 'sickness, ?dryness'. [GI 711 (*sok^ht^ho-)]. OIr *socht* (< **soktos*) 'silence; stupor', Hit *saktāizzi* 'takes care of, performs sick maintenance'. The Irish word is explained as originally indicating a pathological state, e.g., the Irish king Mac Dathō is put into a stupor (*socht*) and remains three days without food or drink, and may derive from **sek-* 'dry' while the Hittite form appears to be a denominative that presupposes a noun **sakta-* (< **sokto-*).

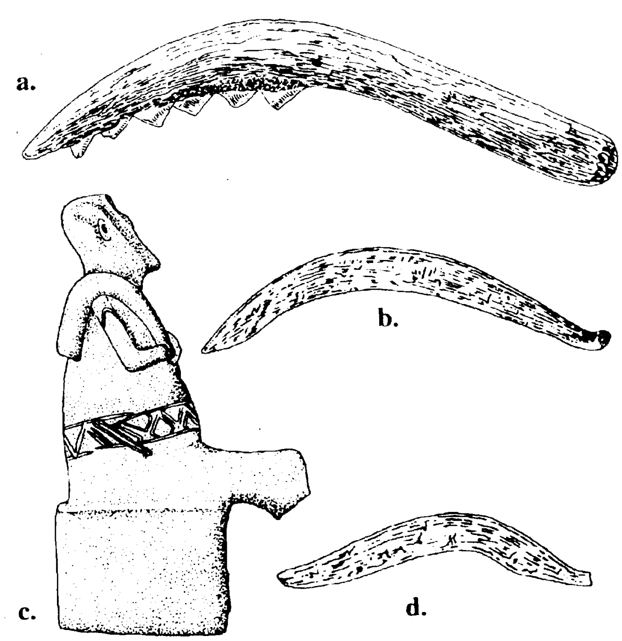
See also MEDICINE. [D.Q.A.]

Further Reading

Watkins, C. (1975) Sick maintenance in Indo-European, in *Indo-European Studies* II, ed. C. Watkins, Cambridge, Mass., 379–387.

SICKLE

***sr̥po/eh$_a$-** 'sickle'. [*IEW* 911–912 (**serp-*); Wat 58 (**serp-*); GI 597 (*$serp^h$-); Buck 8.33]. Latv *sirpis* 'sickle', OCS *srŭpŭ* 'sickle', Rus *serp* 'sickle', Grk *ἅρπη* 'sickle', Hit ^{GIS}*sarpa-* 'agricultural tool (utilized in ritual along with a plow)', Oss *æxsyrf* 'sickle'. Cf. Lat *sarpō* 'cut away, prune (vines)', OHG *sarf* 'rough'. Originally 'the cutter' (and a nominalization by accent retraction from **sr̥pó-* 'cutting'). Widespread and old in IE. The word was apparently borrowed into Finnish *sirppi* 'sickle'.



Sickle a. Neolithic flint-bladed sickle from Germany; b. Copper sickle from Kuro-Araxes culture; c. Neolithic figure with sickle from Szegvár-Tüzköves, Hungary; d. Iron sickle from Zarubintsy culture.

Neolithic sickles were composite tools consisting of a series of blades (flint, chert, obsidian, etc.) that were inserted into a handle of antler, wood or bone. They were known in southwest Asia and Egypt by *c* 10,000 BC, even before the domestication of cereals, where they served for the harvesting of stands of wild wheat and barley. In Europe, they are encountered from the beginning of the Neolithic onwards as is also the case for India and Iran, where they comprised an essential component of the agricultural technology. The sickles might be mounted in series into either a straight or, at least for Europe, more often a curved handle. Generally, all that is preserved are the sickle blades which often exhibit a characteristic silica sheen produced by repeated cutting of cereals. In some instances, however, it would appear that a single long blade may have served as the sickle edge and such examples are known from Swiss lakeside settlements of the Neolithic. Metal sickles (copper and bronze) appear in the Near East by the fourth millennium BC and bronze sickles are encountered in the south Caucasus (Kuro-Araxes culture) by at least 3000 BC. Precisely when metal sickles first appeared in Europe is difficult to establish. A figurine from the Neolithic site of Szegvár-Tüsköves in Hungary depicts a seated figure holding what has often been interpreted as a metal, presumably copper, sickle over his shoulder in a gesture that is regarded as cultic. Although a copper sickle has been recovered from Hungary, it is without context and hence of uncertain date although it may derive from the late Neolithic. By about the middle Bronze Age (*c* 1500 BC) there is evidence of bronze sickles in temperate Europe and by the late Bronze Age (*c* 1200 BC) hoards of bronze sickles are a frequent find across Europe. If the **sr̥po/eh$_a$-* can indeed be assigned to PIE, then this could have referred to either the composite stone tool or the later metal sickles; all the IE stocks reflecting cognate terms do so at a time when sickles would have typically been of bronze or iron. It should be emphasized that sickles played important roles in ritual and myth, and there is some evidence for long retention of stone sickles in ritual use even after they had been replaced by metal sickles in the secular sphere, e.g., the Greek account of the castration of Ouranos by his son Kronos is accomplished in some versions with a flint-bladed sickle

See also AGRICULTURE; CUT; HARVEST; TOOL. [D.Q.A., J.P.M.]

SIDE

***poksós** (< ***pogsós**) 'side, flank'. [*IEW* 792 (**pog-*); Buck 4.40]. Latv *paksis* (< *poksi̯o-*) 'corner of a house', OInd *pakṣá-* 'wing, flank, side'; with lengthened grade (*$pōkso/eh_a$-): Rus *pákh* 'flank, loins', *pakhá* 'armpit', Oss *fæxs* 'side'. Cf. also

Czech *paže* (< *pōĝio-) 'arm' and OInd *pājasyá-* 'belly, loins'. Perhaps more distantly related are OIr *ucht* (< *poktu-) 'breast', and Lat *pectus* 'breast'. At least a word of the center and east of the IE world. If the Old Irish and Latin words belong here, this group must be considered quite old in PIE.

***teig^w-** '± side'. [*IEW* 1018 (*(s)teig^u-)]. OIr *tōib* (*DIL taeb*) 'side', Wels *tu* 'side' (Celtic < *toig^{w}o-), Arm *t'ēkn* 'shoulder'. It is not certain that the Celtic and Armenian words belong together. If they do, they provide evidence for at least a late PIE date.

[D.Q.A.]

SIEVE

***kreidhrom** 'sieve'. [*IEW* 946 (*skerī-); Wat 32 (*krei-)]. OIr *crīathar* 'sieve', Wels *crwydr* 'sieve', Lat *crībrum* 'sieve', OE *hrīder* ~ *hridder* 'coarse sieve' (> NE *ridder*), OHG *rīt(e)ra* 'coarse sieve'. Cf. Goth *hrains* 'pure', Lat *cernō* (< *krinō) 'separate, sift, decide', Wels *gogryn(u)* ~ *gogrwn* (< *upo-krinō) 'sift', Grk *κρῑ́νω* 'cut, decide'. Further from *sker- 'cut'. A western dialect word.

***seh$_1$(i)-** 'sift'. [*IEW* 889 (*sē(i)-); Wat 56 (*sē-)]. Lith *sijóju* 'sift', Latv *sijāt* 'sift' (Baltic < *sh$_1$ii̯-eh$_a$-), OCS *sěti* 'sift', *prosěati* 'sift thoroughly', Grk *ἠθέω* 'sift'. Cf. the various derivatives meaning 'sieve': *seh$_1$tlom: Wels *hidl* 'sieve', ON *sāld* 'sieve'; *seh$_1$itom: Lith *síetas* 'sieve', OCS *sito* 'sieve'; and Alb *shosh* (< *sh$_1$i̯eh$_a$-so-) 'sieve' Grk *ἠθμός* 'sieve', and Lat *sīnus* (< *sh$_1$ih$_a$sno-) 'bowl'. A word of the west and center of the IE world.

The first term, *kreidhrom* 'sieve', appears to derive from the notion of dry-sieving grain, i.e., the sieve as a riddle, rather than utilizing the instrument for separating liquids. This distinction is important since the earliest ceramic sieves known in Europe dating from the Neolithic period and later are generally interpreted as strainers employed in the production of dairy products rather than sifting cereal products.

See also MILK. [D.Q.A.]

SIGH

***ku̯esh$_x$-** '± breathe; sigh, groan'. [*IEW* 631 (*ku̯es-); Wat 34 (*kwes-); Buck 4.51]. Lat *queror* 'complain, lament', OE *hwōsan* (originally a lengthened-grade intensive) 'cough', OInd *śvásiti* ~ *śvásati* 'blow, hiss, pant, snort; breathe, sigh, groan', TochB *kwäs-* 'mourn, lament'. To this etymon also belong the Iranian words for 'lungs', e.g., Av *suši* (dual), Zoroastrian Pahlevi *suš*, NPers *šuš*, all from Proto-Iranian *suš-. Widespread and old in IE.

See also BREATHE; COUGH. [D.Q.A.]

SIGN

***ĝnéh$_3$mn̥** 'sign'. [*IEW* 377 (*ĝnō-mn̥-); Wat 24 (*gnō-); BK 295 (*k'an^y-/*k'ən^y-)]. Lat *cognōmen* 'surname', ORus *znamja* 'sign, mark', Grk *γνῶμα* 'distinctive mark'. A dialectally restricted derivative of *ĝnéh$_3$- 'know, be(come) acquainted with'.

See also KNOW; NAME. [D.Q.A.]

SILENT

***tuh$_2$s-** 'be silent'. [Mayrhofer I, 663]. OPrus *tusnan* 'quiet', Hit *tuhuss(i)ye-* 'keep quiet, acquiesce', Av *tušni-* 'sitting silently', OInd *tūṣṇī́m* 'quiet, silent'. The geographical distribution would seem to guarantee high antiquity for this word.

***tak-** 'be silent' (pres. ***takeh$_1$-**). [*IEW* 1055 (*tak-); Wat 69 (*tak-); GI 26; Buck 18.23]. OIr *tachtaid* 'chokes, stifles', Wels *tagu* 'choke', *gosteg* 'silence', Lat *taceō* 'am silent', ON *þegja* 'be silent', OHG *dagēn* 'be silent', Goth *þahan* 'be silent'. A word of the west of the IE world.

?*su̯īg/k- 'be silent, hush'. [*IEW* 1052 (*su̯ī-g/k/p-); Wat 68 (*swī-); Buck 18.23]. OE *swīgian* 'be silent', OHG *swīgēn* 'be silent', Grk *σῑγάω* 'am silent'. Restricted to two stocks and almost certainly of onomatopoeic origin, presumably based on some sort of 'hushing' sound.

See also DEAF; QUIET. [D.Q.A.]

SILVER

***h$_2$erĝ-n̥t-om** 'white (metal), silver'. [*IEW* 64 (*ar(e)-ĝ-); Wat 3 (*arg-ent-); GI 617 (*Hark'-); Buck 9.65; BK 403 (*ħar-ak^y-/*ħər-ak^y-)]. OIr *argat* 'silver', MWels *aryan(t)* 'silver' (< *h$_2$r̥ĝ-n̥t-om) (cf. Gaul *ARGANTODAN* 'mint, moneyer?'), Lat *argentum* (< *h$_2$erĝ-n̥t-om) 'silver', Umb *aregetud* 'silver', Arm *arcat'* 'silver', Luv [KU]BABBAR-*anza* (*harkan[za])*, Av *ərəzatəm* 'silver', OPers *ardata-* 'silver', Oss *ærzæt* 'silver' (Iran < *h$_2$r̥ĝ-n̥t-om). The distribution appears broad enough to suggest PIE status. Although the word is obviously formed from the base *h$_2$erĝ- 'white', the specific morphological shape reconstructed here means only a metal, usually 'silver'. From Armenian the form may have spread to neighboring Caucasian languages, e.g., Ingush *arsi* 'silver' although the phonetics of such loans are far from clear. OInd *rajatám* 'silver' is often mentioned here but is derived from *reĝ- 'to color' while the superficially similar Tocharian forms, TochA *ārki* 'white', TochB *ārkwi* 'white', cannot be set here either. Although formed from the same root, Grk *ἄργυρος* 'silver' is formed differently and is apparently an independent development; the diminutive *ἀργύριον* 'a silver coin' is the source of Messapic *argorian*.

***silVbVr-** 'silver'. [GI 366, 617; Buck 9.65]. Ibero-Celt *śilaPur* (/*śilabur*/) 'silver', ON *silfr* 'silver', OE *seolfor* 'silver' (> NE *silver*), OHG *silab(a)r* 'silver', Goth *silubr* 'silver', Lith *sidābras* 'silver', Latv *sidrabs* 'silver', OCS *sĭrebro* 'silver', Rus *serebró* 'silver'. The distribution of these words is obviously western and the variation between medial *l*, *d*, and *r* points to the alien phonetics of a substrate loanword. The phonetic similarities with such items as Berber *azref* 'silver', Hausa *azurfa* 'silver' and most notoriously Akkadian *ṣarpu* are questionable. The last named form means 'refined' and the actual Akkadian word for 'silver' is *kaspu*. A loan from Kartvelian *werc$_1$xl̥* has also been suggested but the many phonetic differences not to speak of distance renders such a proposition too uncertain. The most tantalizing connection, given the reflex of this word in the first Botorrita inscription, is Basque *zilhar* 'silver'.

Archaeological Evidence

By *c* 3500 BC silver objects appear in both Egypt and Mesopotamia. More relevant to the early Indo-Europeans is the discovery of silver artifacts, e.g., beads, discs, and even daggers, in the Aegean on Crete, mainland Greece and especially the Cyclades islands, i.e., *c* 2500-2000 BC. In Troy I and II (*c* 2500 BC) silver bars have been recovered and silver is also attested in the north Caucasus by the late fourth and early third millennium BC where at Maykop, silver was fashioned into vessels, silver poles (for holding up a canopy), figures (of bulls, antelopes, etc.) and ornaments. There is also the find of a silver dog at Klady in the north Caucasus and occasionally silver rings are recovered from Yamna burials on the Ukrainian and south Russian steppe. Silver rings are also found in the Usatovo culture from *c* 3500–2900 BC and they are one of the markers of steppe movements into southeast Europe where they have been found in burials on twenty-six sites. The source of the silver is unclear and could have entered the northwest Pontic by way of the Caucasus or from the Aegean. That silver was widely exchanged at this period is also seen by its occasional presence in the Afanasevo culture in the Yenisei-Altai region. The use of silver (as a deliberate alloy with copper) is seen in Central Asian (Namazga IV period) sites of c 3000–2500 BC and silver objects are also known from the Harappan culture of the third and second millennium BC.

Outside of eastern Europe, silver is also occasionally found in central and western Europe, initially about the time of the Beaker "culture", i.e., *c* 2500–2000 BC where it has been occasionally recovered from Beaker burials from central Europe to Brittany as well as in the Remedello culture of north Italy. The silver sources here are presumed to have been either central Alpine or perhaps Iberian which emerged in prehistory as another major center of silver metallurgy. Possibly attested as early as the third millennium BC in Iberia, silver is one of the more distinctive products of the later Spanish Agaric Bronze Age culture of *c* 2000–1600 BC.

The dates for the earliest distribution of silver could accommodate the lexical correspondences in Celtic, Italic, Armenian, Anatolian and Iranian but there is one problem of discontinuity of silver artifacts. Other than the Aegean and Iberia, the early use of silver was largely confined to a narrow horizon (*c* 3500–2000 BC) and silver objects are conspicuously absent throughout most of the Bronze Age which poses a problem for explaining the continuity of a PIE term for the metal into the various IE stocks. A second problem concerns the absence of a PIE term for 'lead'. Although native silver does occur in small amounts, it is clear that by the third millennium BC, the process of silver extraction, at least in the Aegean and Near East (and whatever sources supplied Maykop), involved the cuppelation of lead, i.e., the smelting of a silver-rich lead ore such as galena to *c* 900–1000 C to reduce the ore to silver. Lexically, there is no evidence, therefore, to suggest that the early Indo-Europeans knew how to produce silver which may fit the evidence from the northwest Pontic region where it was acquired by exchange rather than local extraction.

The appearance of a loanword for 'silver' in Ibero-Celtic, Germanic, Baltic and Slavic is not easily explainable. What might be observed is that only in Spain was the metal not only native but abundant and extensively mined in antiquity. Moreover, only Ibero-Celtic offers a reflex of this word in the Celtic languages; there is no trace in any of the much better represented Insular Celtic languages which, like Gaulish, shares the PIE word for 'silver'. It is attractive, therefore, to look to Iberia for the origin of this word and it is difficult to separate it from the various reflexes one finds in northern Europe. Nevertheless, the spread of both word and silver does not appear to be explainable by reference to any known late Neolithic or Bronze Age exchange system and the earliest silver objects in northern Europe are generally dated to the Iron Age or later.

See also GOLD; IRON; LEAD; METAL. [M.E.H., J.P.M.]

Further Readings

Hamp, E. P. (1973) Lith *sidābras*, OCS *srěbro*. *Baltistica* 9, 57-58.

Jovanović, B. (1993) Silver in the Yamna (Pit-grave) culture in the Balkans. *JIES* 21, 207–214.

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SING

seng^{w}h- 'sing, make an incantation'. [*IEW* 906–907 (**seng^{u}h-*); Wat 58 (*seng^{w}h-*); Buck 18.12]. MWels *dehongli* 'explain', ON *syngva* ~ *syngja* 'sing', *sǫngr* 'church song, service', OE *singan* 'sing, lecture, narrate' (> NE *sing*), *sang* 'song' (> NE *song*), OHG *singan* 'sing', *sang* 'song', Goth *siggwan* 'sing, present formally as by chanting', Grk *ὀμφή* 'divine voice, prophecy', Prakrit *saṃghaï* 'say, honor'. Only the Germanic and Greek words are universally assumed to belong together but there is no compelling reason not to include both the Middle Welsh and the Prakrit as well. If we do, we have clear evidence of a word that is widespread and old in IE. Otherwise, we have evidence only for a word of the west and center of the IE world.

geh_1(i)- 'sing'. [*IEW* 355 (**gē(i)-*); Wat 18 (**gēi-*); Buck 18.12]. Lith *giedóti* 'sing' (pres. Lith *giedmi* ~ *giedu*), *giesmẽ* 'song of praise', Latv *dziêdât* 'sing', ORus *gajati* 'crow', Av *gāθā-* 'meter, line of poetry', OInd *gā́yati* ~ *gā́ti* 'sings', *gā́thā-* 'song'. At least a word of the center and east of the IE world. It is in complementary distribution with the following word.

kan- 'sing' (pres. ***káne/o-***). [*IEW* 525–526 (**kan-*); Wat 27 (**kan-*); GI 515; Buck 18.12; BK 257 (**k[^{h}]aŋ-/ *k[^{h}]əŋ-*)]. OIr *canaid* 'sings', Wels *canu* 'sing; play an instrument', Lat *canō* 'sing', *carmen* (< **canmen*) 'song, prophecy, form of incantation', OHG *hano* 'cock', Goth *hana* 'cock', Grk *ἠϊ-κανός* 'cock' (< *'dawn-singer'). At least a word of the west and center of the IE world.

pei- 'sing'. [Buck 18.12]. OCS *pěti* 'sing', Rus *petĭ* 'sing', TochA *pisā-* 'blow (i.e., cause to sing) a musical instrument', TochB *piyā-* 'sing'. Though restricted to only two stocks, those

two are not usually considered very close to one another linguistically so their witness here may well indicate a word of PIE antiquity.

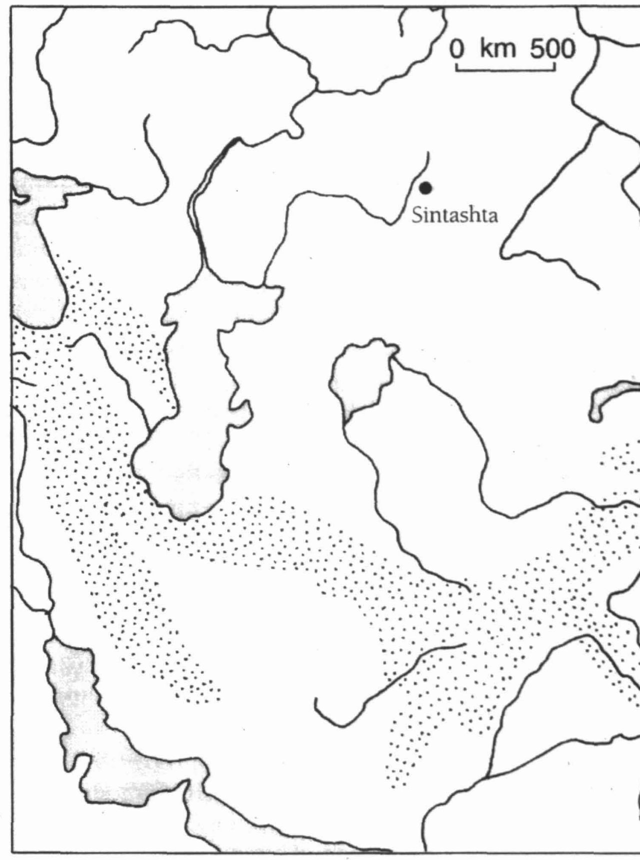
***sh$_2$ómen-** 'song'. [GI 733 (**sHomen-*)]. Grk *ὕμνος* 'song, festival song of praise (commonly in honor of gods or heroes)', *ὑμνέω* 'sing, praise with song', *οἶμος* ~ *οἴμη* (< **sh$_2$omi̯o/ eh$_a$-*) 'song, lay' (borrowed > NE *hymn*), Hit *ishamai-* 'song, melody', *ishamai-* ~ *ishamiye-* 'sing, sing of', OInd *sā́man-* 'song, chant'. Often connected with **seh$_2$-* 'bind'. The connection is possible but it is not particularly compelling either semantically or formally. Whatever its derivation, this is obviously a very old word in IE.

See also Pray; Speak. [D.Q.A.]

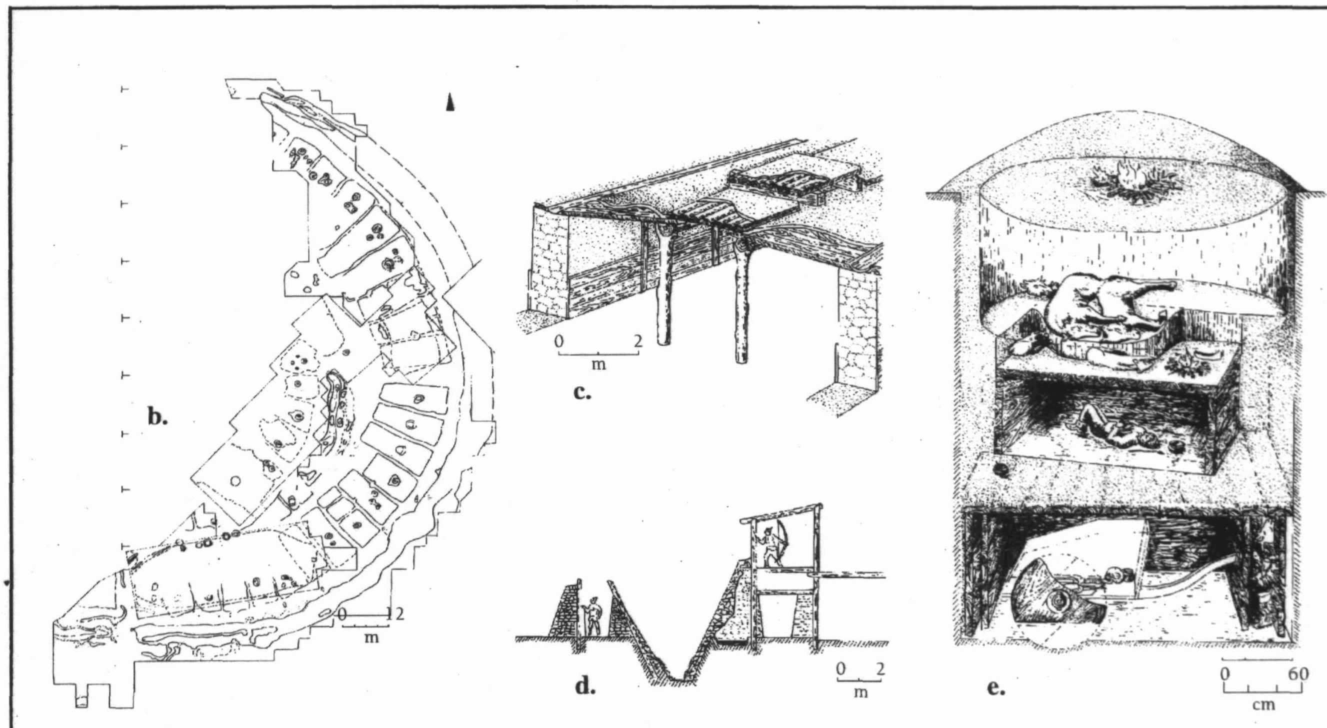
SINK see DIVE

SINTASHTA

Sintashta refers to a late Bronze Age fortification and large burial and ritual complex in the trans-Ural steppe (in Chelyabinsk province), dating to *c* 2000–1600 BC. The settlement, which measured *c* 136–140 m in diameter, was enclosed by a bank and ditch which surrounded an inner enclosure some 60 m across. Between the two lines of defense were a series of rectangular semi-subterranean houses, set like spokes of an enormous wheel. The entrance to the settlement lay on the south. Near the settlement were a number of cemeteries. One cemetery was located NW of the settlement and contained sixty–sixty-five individuals buried in forty graves. The burial



Sintashta a. Location of Sintashta.



Sintashta b. Plan of fortified settlement; c. House construction; d. Defences; e. Burial with cart and horses.

pits contained wooden box-like constructions and the deceased were occasionally accompanied by chariots (five graves) and some form of animal offerings (twenty-five graves). There were also sacrificial complexes of cattle and the head and forelegs of horses. Another of the cemeteries included a large barrow, 32 m in diameter and 10 m high. In addition to other burial complexes was a major ritual structure consisting of superimposed timber frames forming a 9 m high "temple", topped by a circular area and what have been identified as ritual fires. The cemetery has been interpreted in the light of religious practices recorded in early Indo-Iranian literature: the use of an earthen barrow, exposure of the body before burial, animal sacrifice, especially horse and dog as conveyor of deceased to underworld, use of post-like structure within grave, fire cult, etc. Similar cemeteries have also been discovered in the Volga-Ural steppe and have been used to support the Indo-Iranian identity of the steppe region during the Bronze Age.

See also ANDRONOVO CULTURE; HORSE; INDO-IRANIAN LANGUAGES; SACRIFICE; WAGON. [J.P.M.]

Further Readings

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SISTER

su̯ésōr (gen. ***su̯esrós***) 'sister'. [*IEW* 1051 (**su̯esor-*); Wat 68 (**swesor-*); GI 666 (**s°esor-*); Buck 2.45; Szem 6; Wordick 144–145]. OIr *siur* (lenited *fiur* indicates an original cluster **su̯-*) 'sister, kinswoman, woman's brother's sister', Wels *chwaer* 'sister', Lat *soror* 'sister; cousin; friend', ON *systir* 'sister', OE *sweostor* 'sister' (> NE *sister*), OHG *swestar* 'sister', Goth *swistar* 'sister', OPrus *swestro* 'sister', Lith *sesuō* 'sister', OCS *sestra* 'sister', Rus *sestrá* 'sister', SC *sèstra* 'sister', Grk *ἔορ* 'cousin's daughter', Arm *k'oyr* (gen. *k'eṙi*) 'sister', Av *xᵛaŋhar* 'sister', Pashto *xōr* 'sister', OInd *svásar-* 'sister', Prasun *syūs* 'sister', Waigali *sōs* 'sister', Kati *sus* 'sister', TochA *ṣar* 'sister', TochB *ṣer* 'sister' (Toch < [acc.] **su̯ésr̥m̥*). In Hittite the unique form *neka-* occurs; the Luvoid languages have further created a new feminine based on the masculine **negna-* 'brother', e.g., Lycian *nere/i-*, Luv *nānasriya*, HierLuv *nanasri*. Lacking only in Albanian and Anatolian, this word is clearly old in IE.

Compare the derived **su̯esrós* ~ **su̯esri̯ós* 'pertaining to a sister, sisterly; sister's son' in OSwed *swiri* 'mother's sister's son', OE *swor* ~ *(ge)sweor* 'mother's sister's son', *geswirga* 'sister's son; mother's brother's/sister's son, father's sister's son', Arm *k'eṙi* 'mother's brother'. Assuming 'sister's son' as the oldest meaning allows us to explain Armenian 'mother's brother' as an example of reciprocal naming (cf. OIr *aue* 'grandson' from **h₂euh₂os* 'grandfather' or OHG *enikl* 'grandson' from *ano* 'grandfather'). In Germanic we find the further derivative **ga-swerjan-* 'co-sister's son' (much as in Lat *consōbrīnus* 'mother's brother's/sister's son, father's sister's son' < *'co-sister's son'), though there has been considerable confusion and overlapping of the earlier and later meanings. This derivative is at least a word of the west and center of the IE world.

The word for sister has seen abundant attempts to discover a "deeper" etymology, none of which can be regarded as entirely convincing. Earlier in this century many accepted **su̯ésōr* as being from **su̯e-* 'own' + **sōr* 'woman', i.e., 'woman of one's own family' (this etymology, among other things, tends to flounder on the uncertainty of a PIE **sor-* 'woman' although GI propose **sor-* as a feminine marker in Hit *hassu-* 'king' but *hassussara-* 'queen'; Szemerényi suggests that the word is to be split *hasu-asara* where **asar-* means 'woman' and is cognate with Grk *ὄαρ* 'wife', Av *ā̊ŋhairi* 'female, woman'). Alternatively, others have proposed **su̯ésōr* < **su-* (zero-grade of **su̯e*) or **su-* 'with' + **h₁esōr* 'blood', i.e., '(woman of) one's own bloodline or lineage'. Here Uli Linke has emphasized that the metaphor of 'blood' was very much connected with 'inside blood', i.e., the positively charged blood which flowed within the body and did not breach the flesh in contrast to the negatively charged 'outside blood' (**kréuhₐ*) which was associated with wounding or menstruation. Szemerényi argues that **su̯ésōr* is to be analyzed **su̯-* 'joint family' + **h₁esōr* 'woman', hence, 'woman of one's own joint family'. Many would probably hold that attempts to provide deep etymologies for words so basic in the IE vocabulary is at best speculative, if not idle.

See also AUNT; DAUGHTER; KINSHIP. [M.E.H.]

Further Reading

Linke, U. (1985) Blood as a metaphor in Proto-Indo-European. *JIES* 13, 333–376.

SISTER-IN-LAW

su̯oinii̯ehₐ- 'wife's sister'. [*IEW* 884 (**su̯ēdh-*); Wordick 204]. Lith *sváinė* 'sister-in-law' (particularly 'wife's sister; brother's wife'), Latv *svaîne* 'wife's sister', Arm *k'eni* 'wife's sister'. Confined to the center of the IE world, but related to a word for 'wife's brother' that shows a bit wider distribution.

ĝl̥h₃-u̯os- 'husband's sister'. [*IEW* 367–368 (**ĝ(ₑ)lōu̯-*); GI 662 (**k̂'al(ou)-*); Wordick 233; Szem 25; BK 283 (**k'al-/*k'əl-*)]. Lat *glōs* 'husband's sister, brother's wife', OCS *zŭlŭva* 'husband's sister', Rus *zólov-ka* 'husband's sister, brother's wife', Grk *γάλως*, (Aeolic *γάλοως*) 'husband's sister, brother's wife', cf. Hesychius *γάλις·γαλαός* 'husband's sister, brother's wife', without ethnic identification, Phryg (Hesychius) *γελλαρος* (glossing **γελλαϝος* 'brother's wife'), Arm *tal* 'husband's sister' (for **cal* by contamination from *taygr* 'husband's brother'), OInd *giri-* 'brother's wife' (contaminated by the forms for 'mountain' or 'weasel' without a palatal). Distribution indicates PIE status. It has been suggested that these forms were not only influenced by similar sounding terms for the 'mouse' or 'weasel' (e.g., Lat *glīs* 'dormouse', Grk *γαλέη* 'weasel', Ormuri *gilak* 'rat', Bakhtiari *girza* 'rat', OInd *giri-* ~ *girikā-* 'mouse') but that the kinship terms was actually applied to the animal

(*ĝlh$_1$ís 'dormouse, marten, weasel?') either as a metaphor (comparison between young women and slim, streamlined mustelids?) or because of some taboo on employing the animal's name. Szemerényi has attempted to reverse this derivation and has suggested that the 'sister-in-law' was named after the animal (here 'marten'). The incompatibility of the laryngeals in the two words, however, would seem to obviate against either proposal.

h$_1$i̯enh$_a$-ter- 'husband's brother's wife'. [*IEW* 505–506 (*i̯énəter-); GI 662 (*(y)enḤt^{h}er-); Wordick 226–227; Szem 26]. Late Lat *ianitrīcēs* 'brothers' wives', Lith *jentė̃* (eastern dial. *intė̃*) 'husband's brother's wife', Latv *ietere* 'husband's brother's wife', OCS *jętry* 'husband's brother's wife', ORus *jatry* 'husband's brother's wife', Rus *játrovĭ* 'husband's brother's wife', Grk *ἐνάτηρ* (Homeric *εἰνάτερες*) 'husband's brother's wife', Phryg *ἰανατερα* (claimed by Chaintraine as a carelessly written Greek form with *ια-* for *αἰ-*, a late spelling of *ἐ-*), Arm *ner* 'husband's brother's wife', Pashto *yōr* 'husband's brother's wife', OInd *yā́tar-* 'husband's brother's wife', Prasun *irī́* 'co-wife', Waigali *yārī́* 'co-wife', Kati *yārī́* 'co-wife'. Distribution indicates PIE status.

The above cognate sets suggest that of the different persons who may be termed 'sister-in-law', PIE or at least late PIE had discrete terms for at least three. The discontinuous distribution of the feminine *su̯oiniįeh$_a$- 'wife's sister' in Baltic and Armenian assures some antiquity for this form. A term for 'husband's sister' is phonologically more troublesome, but a form approximating *ĝlh$_3$u̯os- in various ablaut grades will account for most forms with some analogical restructuring in Indic and Armenian. A reciprocal term, *h$_1$i̯enh$_a$-ter- 'husband's brother's wife' is recorded in Italic, Baltic and Slavic, Greek, Armenian, and Indo-Iranian.

See also Brother-in-law; Kinship. [M.E.H.]

SIT

h$_1$ēs- 'sit' (pres. ***h$_1$ḗsor***). [*IEW* 342 (*ēs-); GI 187 (*es-); Buck 12.13; BK 434 (*as^y-/*əs^y-)]. Grk *ἧσθαι* 'sit', Hit *ēsa* 'sit', *āszi* 'remains, stays, is left', Av *āste* 'sits', OInd *ā́ste* 'sits'. Though only modestly attested, its geographical distribution guarantees its PIE antiquity. Originally a lengthened-grade intensive of *h$_1$es- 'be'. Indeed, *h$_1$es- may have originally meant 'sit' and, on "weakening" to 'be' was replaced in its original semantic sphere by the derived intensive *h$_1$ēs-. In any case one should note the common interchange of 'be' and 'sit' (and 'stand') as witnessed for instance in the Spanish paradigm for 'be' where the indicative *es* 'is' reflects Latin 'be' but the subjunctive *sea* and infinitive *ser* both reflect the Latin word for 'sit' (*sedēre*), while the other 'be' verb in Spanish, *estar*, reflects Lat *stāre* 'stand'.

sed- 'sit (down)' (pres. ***sédsti***, ***sísdeti*** 'sits down'; stative pres. ***sēdeh$_1$ti*** 'sits, is sitting'). [*IEW* 884–885 (*sed-); Wat 56 (*sed-); GI 134; Buck 12.13]. OIr *saidid* 'sits', Wels *seddu* 'sit', Lat *sīdō* (< *si-sd-e/o-) 'sit down', *sedeō* 'sit, be sitting', ON *sitja* 'sit', OE *sittan* 'sit' (> NE *sit*), OHG *sizzan* 'sit', Goth *sitan* 'sit', OPrus *sīdons* 'sitting', Lith *sėdu* 'sit down', *sėdžiu* 'sit, be sitting', Latv *sēst* 'sit down', OCS *sěsti* 'sit down', *sěděti* 'sit, be sitting', Grk *ἵζω* (< *si-sd-e/o-) ~ *ἕζομαι* 'sit', Arm *nstim* 'sit', Av *hiδaiti* (< *si-sd-e/o-) - 'sit', OInd *sad-* ~ *sī́dati* (< *si-sd-e/o-) 'sit'. Cf. the derivatives: (1) *sedes- 'seat': Wels *hedd* 'rest', *sedd* 'seat', Grk *ἕδος* 'seat', Av *hadiš-* 'seat', OInd *sádas-* 'seat'; *sōd(i̯)o- 'soot': ON *sōt* 'soot', OE *sōt* 'soot' (> NE *soot*), Lith (pl.) *súodžiai* 'soot', OCS *sažda* 'soot'. Nearly ubiquitous in IE, certainly old.

See also Seat; Set. [D.Q.A.]

SKIN

tu̯éks (gen. ***tu̯$_e$kós***) 'skin'. [*IEW* 1099 (*tu̯akos); GI 712 (*t^{ho}ek^h-); Buck 4.12]. Grk *σάκ(κ)ος* (if < *tu̯$_e$ko-) '(leather-)shield', Hit *tuekka-* 'body; person, self', OInd *tvák-* 'skin'. Though sparsely attested, this word is not derived from any verbal root and would appear to be the oldest word reconstructible for 'skin' in PIE.

(s)ku̯éh$_x$tis (gen. ***(s)kuh$_x$téis***), also ***k(e)uh$_x$t-es-*** 'skin, hide'. [*IEW* 952 (*(s)keu-t-); Wat 60 (*(s)keu-); Buck 4.12]. Wels *esgid* (< *ped-skūti-) 'shoe', ON *hūð* 'hide', OE *hȳd* 'skin, hide' (> NE *hide*), OHG *hūt* 'hide' (Gmc < *kuh$_x$ti-), Grk *σκῦτος* 'skin, hide, leather', TochA *kāc* (< *ku̯éh$_x$ti-) 'skin'; with new full vowel: OPrus *keuto* 'skin', Lith *kiáutas* 'skin' (< *keuh$_x$t-o-). Related forms without a laryngeal are: Lat *cutis* 'skin (of living beings)', Grk *κύτος* 'body, skin', *ἐγκυτί(ς)* 'down to the skin', perhaps abstracted originally from compounds where, as the second member, the loss of laryngeal was probably at least semi-regular. From *(s)keuh$_x$- 'cover'. Originally meaning 'covering' this word has replaced the more original *tu̯éks in most of the IE world and had probably done so in late PIE times.

kérmen- 'skin'. [*IEW* 938–939 (*(s)ker-); BK 247 (*k[^{h}]ar-/*k[^{h}]ər-)]. OPrus *kērmens* 'body', Av *čarəman-* '(animal) skin, leather', OInd *cárman-* 'skin'. Regularly derived from PIE *(s)ker- 'cut (off)' but morphologically isolated in both Baltic and Indo-Iranian by the prehistoric loss of the underlying verb. Perhaps a late PIE "easternism".

h$_1$ou̯es- '(inner) skin'. [*IEW* 346 (*eu-)]. Lat *ōmentum* 'fatty membrane or caul covering the intestines', TochB *ewe* 'inner skin, hide'. From *h$_1$eu- 'cover'. Possibly a word of late PIE date.

See also Anatomy; Flesh; Hide[2]; Meat; Skin Disease. [D.Q.A.]

Further Reading

Hilmarsson, J. (1985) Toch. A *kāc*, Lat *cutis*, OIcel. *húð* < IE *kuHtis 'skin'. *KZ* 98, 162–163.

SKIN DISEASE

dedrús 'tetter, skin eruption, leprosy'. [*IEW* 209 (*de-dru-); Wat 12 (*de-dr-u-)]. OE *teter* 'tetter, skin eruption', OInd *dadrú-* 'skin eruption, a kind of leprosy'. Cf. the derived *dedrukos 'leprosy': OHG *zittaroh* 'leprosy', OInd *dadruka-* (only attested in lexica) 'leprosy'; and Lith *dedervinė̃* 'ulcer'. From *der- 'split'. The exact formal and semantic equation from the two ends of the IE world seem to guarantee this

word's PIE status.

kl̥nos 'callosity'. [*IEW* 523–524 (**kl̥-no-*); Wat 26 (**kal-*)]. Lat *callus* 'callosity', OInd *kíṇa-* 'callosity'. From **kal-* 'hard'. Again, though sparsely attested, the presence of this word near the eastern and western extremes of IE speech is strong evidence for its PIE status.

u̯r̥h$_x$os 'pimple'. [*IEW* 1151 (**u̯ero-s*); Wat 76 (**wer-*)]. Lat *varus* 'pimple', Lith *vìras* 'pimple in a piece of pork', TochB *yoro* (< **u̯ērh$_x$eh$_a$-*) '± pimple'.

u̯orh$_x$do- ~ ***u̯erh$_x$deh$_a$-*** 'wart'. [*IEW* 1151 (**u̯er-d-*); Wat 76 (**wer-*)]. ON *varta* 'wart', OE *wearte* 'wart' (> NE *wart*), OHG *warza* 'wart', Latv *ap-vìrde* 'abscess', OCS *vrědŭ* 'damage, infirmity', Rus *véred* 'abscess, ulcer', NPers *balū* (< **var-duka-*) 'wart'. Taken together, **u̯r̥h$_x$os* and **u̯orh$_x$dó-* suggest a reasonably widespread PIE **u̯erh$_x$-* '± small swelling in the skin'. That **u̯orh$_x$do-* is apparently homophonous with a word meaning 'frog' suggests that the traditional association of frogs and warts is of high antiquity.

kreup- '± rough, scabby'. [*IEW* 623 (**kreup-*); Wat 33 (**kreup-*)]. Gaul *cruppellarii* (type of armored gladiator), ON *hrjūfr* 'rough, scabby', OE *hrēof* 'rough, scabby', OHG *riob* 'leprous', OPrus *crupeyle* 'frog', Lith *kraupùs* 'rough', *nu-krùpęs* 'scabby', Latv *kr̦aupa* 'wart', TochB *kärpiye* (< **krupii̯o-*) 'common' (< *'rough'). Widespread, at least in the "west" of the IE world, in late PIE.

h$_1$élk̑es- '± ulcer'. [*IEW* 310 (**elkos-*); Wat 17 (**elk-es-*)]. Lat *ulcus* 'ulcer', Grk ἕλκος (with secondary *h-*) '(suppurating) wound, ulcer', Sogd *'rsx* 'hemorrhoids', Khot *āsī* 'itch', OInd *árśas-* 'hemorrhoids'. Not derived from any attested PIE verb; at least late PIE in date.

?*ghendh- 'abscess'. [*IEW* 438 (**ghendh-*); Wat 22 (**ghendh-*)]. OE *gund* 'pus', OHG *gund* 'pus', Goth *gund* 'gangrene' (Gmc < **ghn̥dhó-*), Grk κανθύλη 'abscess, tumor'. The Germanic and Greek words do not match well phonologically; a PIE source is doubtful.

See also ANATOMY; FROG; MEDICINE; ROUGH; SICK. [D.Q.A.]

SKY GOD *see* GOD

SLACK

(s)lh̥$_2$g- ~ ****(s)leh$_2$g-*** 'slack'. [*IEW* 959–960 (**(s)lēg-* ~ **(s)ləg-*); Wat 61 (**slēg-*); Buck 4.82]. OIr *lac* 'slack, weak', Lat *laxus* 'slack, loose', ON *slakr* 'slack', OE *sleac* 'slack' (> NE *slack*), OHG *slah-* 'slack', Latv *l̦egans* 'slack, soft', Grk λαγαρός 'slack'. MWels *llacc* 'slack' is probably a loanword. OInd *ślakṣṇá-* 'slippery, smooth, soft' has been placed here (assuming the second reconstruction given) but it may be instead from **k̑lek-sno-* 'smooth, soft', cf. Lith *šlãkas* 'drop', *šlė̃kti* 'to spray', etc. TochB *slakkare* has traditionally been placed here as well, but the geminate velar represents a formal problem and the meaning is 'swift, fickle' rather than 'slack, beaten down'. Distribution still suggests at least late IE status.

?*sēk- (****seh$_1$k-***) 'slow, slack'. [*IEW* 896 (**sēk-*); Wat 57 (**sēk-*)]. Lat *sēgnis* 'slow, slack', Grk ἦκα 'slow, easy'. The Latin form has been regarded as lacking secure connection but a possible affinity to TochA *säk-* 'to hold oneself/someone back' would enhance the case for PIE status. Perhaps to be associated with **seh$_1$(i)-* 'leave behind'.

See also WEAK. [J.C.S.]

SLANT

dh̥$_3$ĝhmós 'aslant'. [*IEW* 222 (**dəĝh-mó-s*)]. Grk δοχμός ~ δόχμιος 'slanting, oblique', OInd *jihmá-* (with regressive assimilation from **džidžma-* < **didžhma-*) 'athwart, oblique'. At least a word of the southeast of the IE world. With no known root connections, it is likely to be old in PIE.

[A.D.V.]

SLAVIC LANGUAGES

The earliest historical location of the Slavs, during the first half millennium or so AD, corresponds roughly to the central and western Ukraine and adjacent parts of Poland. In their Ukrainian and Polish homeland the Slavs were intermixed and at times overlain by Germanic speakers (the Goths) and by Iranian speakers (Scythians, Sarmatians, Alans) in a shifting array of tribal and national configurations. The collapse in AD 453 of the Hunnic empire put together by Attila left a power vacuum in central and southeastern Europe that the Slavs exploited by moving, in large numbers, south of the Carpathians, settling in the Balkans as far south as Greece. They also moved west, as far as the lower Elbe, and to the north and east, into what is now European Russia which were then territories occupied by Baltic and Uralic groups.

In the latter part of the ninth century Sts Cyril (Constantine) and Methodius, two brothers who were native speakers of Slavic from Thessalonika, were charged by the Byzantine emperor with a Christian mission to the Slavs. It is they who are credited with devising the first Slavic alphabet (though the "Cyrillic" alphabet is a somewhat later development); areas of the Slavic world which came to be in the orbit of western Christianity came to write in the Latin alphabet. The variety of Slavic, first used by Cyril and Methodius in their biblical translations, is called Old Church Slavonic (OCS). The Slavic speech area of the ninth century was not altogether uniform and Old Church Slavonic represents a southern variety, appropriate to the Thessalonican origin of Cyril and Methodius (though differences between the speech of Cyril and Methodius and other varieties of Slavic of the time were slight). Subsequently, the various dialects of Slavic have continued to develop and diverge. The currently spoken languages can be divided into three large groups: east, west, and south. The eastern group is composed of Russian, Belorussian, and Ukrainian. The western Slavic languages are Polish, Czech, Slovak, Upper Sorbian, and Lower Sorbian (the latter two spoken by small populations in eastern Germany). Other, non literary, languages of this group are Kashubian and Slovincian (both spoken in Polish Pomerania) and the extinct Polabian (once spoken in Lower Saxony in Germany). Southern Slavic languages are Macedonian (the most direct descendant of Cyril and Methodius' speech),



Slavic I Distribution of Slavic languages. Shaded territory indicates core area of Slavic river names.

Bulgarian, Serbo-Croatian, and Slovenian.

Slavic and Baltic are closely related Indo-European groups. They are so closely allied that most assume that Baltic and Slavic shared a period of continued common development after the general break-up of Proto-Indo-European "unity". In any case, these two groups have always lived adjacent to one another and have a long history of mutual influence. Baltic and Slavic also enjoyed a close, early relationship with Germanic (earlier and distinct from the relationship of Gothic with Proto-Slavic). On the other hand both Baltic and Slavic share certain innovations with Indo-Iranian, innovations that probably antedate the influence of the Iranian Scythians and Sarmatians on Slavic. Thus, both Slavic and Baltic are satəm languages, merging the PIE dorso-velars and labio-velars and showing sibilants as reflexes of the PIE palatals. Both groups, however, but particularly Baltic, show exceptions which suggests that Balto-Slavic was on the periphery of that part of Proto-Indo-European that underwent satəmization (or they "absorbed" vocabulary from an otherwise unattested centum language). They also both show the effects of the *ruki*-rule whereby a PIE **-s-* is retracted to *-š-* after *r*, *u*, *k*, or *i*. This is an unexpected phonological development that is shared otherwise only with Indo-Iranian. In other respects both Slavic and Baltic are fairly conservative representatives of Proto-Indo-European. Both groups preserve seven nominal cases and three numbers (singular, dual, and plural) in the noun. The verb has undergone more restructuring. Particularly the wide range of past tense formations known to Proto-Indo-European is much reduced, though Old Church Slavonic and some South Slavic languages even today preserve the PIE distinction between the aorist (denoting completed past actions) and imperfect (denoting on-going past actions). In the course of their historical development the Slavic languages have created a thorough-going distinction in all tenses between perfective (i.e., verbs showing completion of action) and imperfective (showing incomplete activity) aspects that are formally and historically quite distinct from anything inherited from Proto-Indo-European.

Slavic Origins

The Slavs were one of the most recent of the IE stocks to disperse from their own region of formation and up until the middle of the first millennium AD we can attribute a Common Slavic to all Slavic speakers. The historical expansion of the Slavs into peripheral areas such as the Balkans can be partially charted through historical sources. Where they derived from before these historically attested migrations has been a much more controversial problem.

The claims for the earliest historical attestation of Slavic peoples derives from Herodotus' description of the Iron Age peoples of Scythia, the region north of the Black Sea. There he places the Neuroí (***Νευροι***) on the upper reaches of the southern Bug, and the Boudínoi (***Βουδινοι***) to their east between the upper Dnieper and Donets. Zbigniew Gołąb argues that both these names may reflect Slavic tribal names: Neuroí may derive from a **Neruoi* (< **$h_a$ner-* 'manly strength') and their eastern neighbors, the Boudínoi, are derived from **Bydini* 'tribesman' (< **by-ti* 'grow'). Identifications more widely accepted derive from the first centuries AD where the *Venedi*, generally presumed to be the Slavic Wends, are recorded to the east of the Vistula. This tradition continues to the sixth century when Jordanes (*Getica* 5.34) also introduces the names *Sclaveni* and *Antae*, the first being the earliest attestation of the ethnonym Slav or *Slověne* (unless concealed under Ptolemy's *Stauanoí*, situated on the middle Dnieper and recorded in the second century AD). The historical evidence generally points to an early Slavic presence somewhere east of the Vistula and west of the Don.

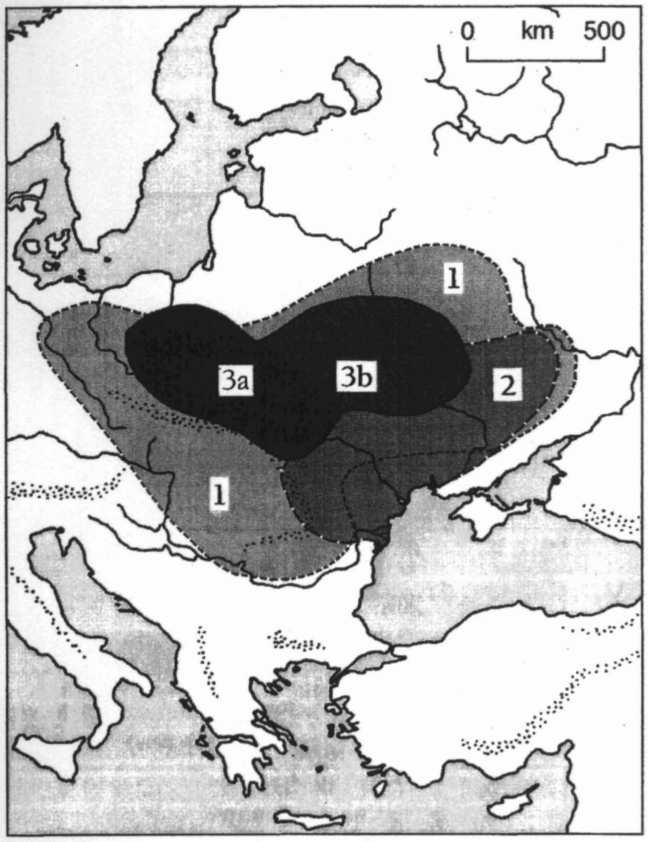
One of the other techniques employed in tracing the earlier distribution of the Slavs is river names combined with a sort of dead-reckoning that requires us to place the early Slavs in a region peripheral to that of the early Balts and Uralic-speakers of northeast Europe and the Iranian tribes that came to dominate the steppe and forest-steppe of the Ukraine and south Russia at least by the Iron Age if not earlier. The Pripet marshes of southern Belarus were once thought to have served as the major border between prehistoric Balts and Slavs but the evidence of Baltic river names south of the Pripet suggests that at least at some time in the past, the early Slavs did not occupy this region.

The other technique is retrospective archaeological analysis where the culture of the earliest historically attested Slavs is examined and its (archaeological) ancestors are sought. The Prague-Penkov-Kolochin complex of cultures occupied an

Proto-Indo-European and Slavic Phonological Correspondences

PIE		OCS	PIE	OCS
*p	>	p	**pórk̂os* 'young pig'	*prasę* 'young pig'
*b	>	b	*****b****oli̯os* 'strong'	***b****olĭjĭ* 'great'
*bh	>	b	*****bh****réh$_a$tēr* 'brother'	***b****ratrŭ* 'brother'
*t	>	t	**tuh$_x$* 'thou'	*ty* 'thou'
*d	>	d	*****d****óm(h$_a$)os* 'house'	***d****omŭ* 'house'
*dh	>	d	*****dh****uh$_s$mós* 'smoke'	***d****ymŭ* 'smoke'
*k̂	>	s	*****k̂****r̥d-* 'heart'	*srĭd-ice* 'heart'
*ĝ	>	z	*****ĝ****ómbhos* 'tooth, peg'	***z****ǫbŭ* 'tooth'
*ĝh	>	z	*****ĝh****eimeh$_a$-* 'winter'	***z****ima* winter'
*k	>	k	**te****k****e/o-* 'run'	*te****k****ǫ* 'run'
*g	>	g	**i̯u****g****óm* 'yoke'	*jĭ****g****o* 'yoke'
*gh	>	g	*****gh****órdhos* 'enclosure'	***g****radŭ* 'town'
*k^w	>	k	**u̯l̥****k^w****os* 'wolf'	*vlĭ****k****ŭ* 'wolf'
*g^w	>	g	*****g^w****ou-* 'cow'	***g****ovędo* 'ox, cow'
*g^{w}h	>	g	*****g^{w}h****oreh$_1$-* 'burn'	***g****orěti* 'burn'
*s	>	s	*****s****eh$_1$-* 'sow'	***s****ěti* 'to sow'
*i̯	>	j	*****i̯****ugóm* 'yoke'	***j****ĭgo* 'yoke'
*u̯	>	v	*****u̯****edhe/o-* 'lead'	***v****edǫ* 'lead'
*m	>	m	*****m****eh$_a$tḗr* 'mother'	***m****ati* 'mother'
*n	>	n	*****n****ok^{w}ti-* 'night'	***n****oštĭ* 'night'
*l	>	l	*****l****ók̂s* 'salmon (trout)'	Rus ***l****osósĭ* 'salmon'
*r	>	r	**h$_1$****r****oudhos* 'red'	Slov ***r****ûd* 'red'
*m̥	>	ę	**k̂****m̥****stos* 'thick'	*c****ę****stŭ* 'thick'
*n̥	>	ę	**g^{w}h****n̥****-* 'strike'	*ž****ę****ti* 'to chew, mow'
*l̥	>	ĭl	**t****l̥****h$_x$om* 'ground'	*t****ĭl****o* 'ground'
*r̥	>	ĭr	**k̂****r̥****d-* 'heart'	*s****rĭ****d-ice* 'heart'
*i	>	ĭ	**p****i****se/o-* 'push, stamp'	**p****ĭ****šǫ* 'push, rub'
*ī	>	i	**g^w****ih$_3$****uós* 'alive'	*ž****i****vŭ* 'alive'
*e	>	e	**bh****e****re/o-* 'carry'	*b****e****rǫ* 'carry'
*ē	>	ė	**s****eh$_1$****-* 'sow'	*s****ě****ti* 'to sow'
*a	>	o	**n****a****s-* 'nose'	*n****o****sŭ* 'nose'
*ā	>	a	**bhr****éh$_a$****tēr* 'brother'	*br****a****trŭ* 'brother'
*o	>	o	**g^{w}h****o****reh$_1$-* 'burn'	*g****o****rěti* 'burn'
*ō	>	a	**s****ō****dei̯e/o-* 'cause to sit'	*s****a****diti* 'to set, plant'
*u	>	ŭ	**dh****u****g(h$_a$)tēr* 'daughter'	*d****ŭ****kti* 'daughter'
*ū	>	y	**dh****uh$_x$****mós* 'smoke'	*d****y****mŭ* 'smoke'
*h$_1$	>	ø	*****h$_1$****est-* 'be'	*jestŭ* 'is'
*h$_2$	>	ø	*****h$_2$****ou̯ikéh$_a$-* 'ewe'	*ovĭca* 'ewe'
*h$_3$	>	ø	*****h$_3$****ók^w* 'eye'	*oko* 'eye'
*h$_4$	>	ø	*****h$_4$****r̥ĝheh$_a$-* 'mount sexually'	Rus *jérzatĭ* 'move in coition'

area so broad (Vistula to Dnieper and south to the Danube) during the sixth and seventh centuries AD that it surely incorporated most if not all early Slavic speakers. This series of related cultures with their semi-subterranean houses, use of coarse pottery, and cremation has been labeled the "Slavic cultural model". Attempts to go earlier usually involve consideration of the Chernyakovo culture, the broad cultural phenomenon pivoting about the northwest corner of the Black Sea. It would appear that the Chernyakovo culture was very much a mixed culture involving various ethnic elements, among which were certainly the Sarmatians, the major Iranian-speaking group of the last centuries BC and first centuries AD. Within the Chernyakovo culture were also possibly early Slavs (in the more northerly area of the Chernyakovo culture are found coarse wares typical of the later Prague-Penkov complex alongside the wheel-made Chernyakovo pottery) and the close cultural contact between them and the Sarmatians may possibly account for some of the Iranian loans in Slavic. (It has also been suggested that the Slavs derived their Iranian vocabulary from the Avars whose ruling family is identified



Slavic II 1 = light-shaded area of Prague-Penkov-Kolochin complex; 2 = medium-shaded area of Chernoles culture; 3 = dark-shaded area of Przeworsk(3a)-Zarubintsy(3b) cultures.

as Turkic but, it has been speculated, was primarily composed of Iranian-speakers.) Alternatively, there are others who see in Chernyakovo a mixture of Germanic and Sarmatian elements, excluding the Slavs from a region so far south. Any attempt to retreat earlier with respect to Slavic ethnogenesis normally carries one further to the north since the Slavs would appear to have followed, at least in part, a north-south trajectory during the course of their expansions. The main cultural phenomenon for this period would be the related Przeworsk and Zarubintsy cultures (second century BC–fourth century AD). In the view of many, the more easterly Zarubintsy culture in the region of the upper Dnieper and Pripet accords geographically with the position of early Slavs (i.e., as it lies east of the Vistula it fits very well with the location attributed to the Venedi) although some emphasize that as its territory embraces the Pripet as well, it is just as likely to have been Baltic. The neighboring Przeworsk culture to its west is taken by some as Slavic and others as east Germanic and it is possibly during this period, if not slightly later during the Chernyakovo culture, that a series of Germanic loanwords passed into Slavic.

The disparity in interpretations here is quite old as there has long been a school of thought, often dubbed the "Polish school", that argues for a more westerly Slavic homeland in Poland which comes into conflict with Germanicists who would place the eastern borders of the early Germans in the same region. Most controversy concerning Slavic origins concerns this western border. It should be obvious then that as one recedes further back into time to earlier Bronze Age candidates for either Proto-Slavic or Proto-Balto-Slavic, any degree of certainty must recede correspondingly. In one of the most detailed linguistic analysis of the problem of Slavic origins, Zbigniew Gołąb has sought to peel away the layers of linguistic contacts between the Slavs (and Proto-Slavs) and their neighbors. Gołąb argues that Proto-Slavic emerges sometime about 1000 BC, i.e., in archaeological terms during the later part of the Bronze Age after the floruit of the Trzciniec and Komarov cultures which spanned Poland and the western Ukraine and are frequently regarded as Proto-Slavic.

See also BALTIC LANGUAGES; INDO-EUROPEAN LANGUAGES.

[D.Q.A., J.P.M.]

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SLEEP

***der-** 'sleep', in the various enlargements: (1) ***dreh**$_1$**-**, (2) ***derdh-**, and (3) ***drem-**. [*IEW* 226 (**drē-*); Wat 15 (**drem-*); Buck 4.61]. (1) OInd *drắti* 'sleeps'; (2) Grk *ἔδραθον* 'slept'; (3) Lat *dormiō* 'sleep', OCS *dremljǫ* 'doze'. Cf. Arm *tartam* 'slowly'. Old in IE though the underlying verb has not survived, only derivatives of PIE age.

ses- 'rest, sleep, keep quiet' (pres. ***sésti***). [GI 256 (*ses-); Del 287]. Hit *sesmi* 'sleep', *sassnu-* 'put to bed', Av *hahmi* 'sleep', OInd *sásti* 'sleeps', *sasvártā* 'stealthily'. Not widely attested though its geographical distribution demonstrates that it is old in IE. It is almost surely onomatopoeic in origin—derived from the sound of gentle snoring (cf. NE *counting z's*) or from an interjection similar to NE *sh!* This word seems to have been the "external" word for sleep, sleep as seen by the onlooker.

su̯ep- 'sleep, dream' (vb). [*IEW* 1048 (*su̯ep-); Wat 68 (*swep-); GI 100 (*sweph-); Buck 4.61; BK 197 (*saw-/*səw-)]. (1) Pres. *su̯épti* 'sleeps, dreams': ON *sofa* 'sleep', OE *swefan* 'sleep', OCS *sŭpati* 'sleep', Hit *supp-* 'sleep', Av *xᵛap-* 'sleep', OInd *svápiti* 'sleeps'; (2) pres. *su̯ōpéi̯eti ~ *su̯ōpéi̯eti* 'lulls to sleep': Lat *sōpiō* 'lulls to sleep', ON *svefjan* 'lull to sleep, appease', *sœfa* (< *su̯ōpéi̯e/o-) 'kill', OE *swefian* 'lull to sleep, appease', *swebban* 'lull to sleep; kill', OHG *antswebben* 'fall asleep', OInd *svapayati ~ svāpáyati* 'lulls to sleep'. Widespread and old in IE. In contrast to *ses-, this form seems to have been the "internal" word for sleep, i.e., sleep as seen by the sleeper.

su̯ópnos ~ *su̯épnos ~ *supnós 'sleep, dream' (noun). [*IEW* 1048–1049 (*su̯epno-s); Wat 68 (*swep-); GI 107 (*sweph-); Buck 4.61; BK 197 (*saw-/*səw-)]. (1) *su̯ópnos:* OIr *sūan* 'sleep', Wels *hun* 'sleep', Lat *somnus* (or < *su̯épnos) 'sleep', Lith *sāpnas* 'dream', Latv *sapnis* 'dream', Grk ὕπνος 'sleep'; (2) *su̯épnos*: ON *svefn* 'sleep, dream', OE *swefn* 'sleep, dream', Av *xᵛafna-* 'sleep', OInd *svápna-* 'sleep' (Indo-Iranian could be < *su̯ópnos), TochA *ṣpäṃ* 'sleep, dream', TochB *ṣpane* 'sleep, dream'; (3) *supnós*: OCS *sŭnŭ* 'sleep', Alb *gjumë* 'sleep', Arm *k'un* 'sleep', TochB *sänmetse* (< *supnó-ti̯o-) '± entranced'. Cf. Lat *sopor* (< *su̯épōr) 'overpowering sleep', Grk ὕπαρ 'true dream, vision; walking reverie', Hit *suppariya-* 'dream'. All of these derivatives together suggest an ancient derived noun *su̯ópr̥ ~ *su̯épōr* (gen. *supnós*) rebuilt as a *no*-stem in several ways, already in late PIE. In any case widespread and old in IE.

See also **Dream**. [D.Q.A.]

SLIDE

(s)meug- ~ *meuk- 'slip'. [*IEW* 744–745 (*meug- ~ *meuk-); Wat 42 (*meug-); GI 124; Buck 10.11]. Lat *-mungō* 'blow nose', OE *smūgan* 'slide, slip', Lith *munkù* 'slip away from', Latv *mùku* 'slip loose', OCS *mŭčati* 'chase', ORus *mŭknuti sja* 'pass over', Grk ἀπομύσσω 'wipe nose', OInd *muñcáti ~ mucáti* 'lets loose, frees', TochA *muk-* 'desist', TochB *mauk-* 'desist', *mäk-* 'run'. Widespread and old in IE, though the exact range of its original meaning is hard to determine.

(s)leidh- 'slide' (pres. ***sléidhe/o-***). [*IEW* 960–961 (*(s)leidh-); Wat 61 (*sleidh-); Buck 10.42]. OE *slīdan* 'slide' (> NE *slide*), MHG *slīten* 'slide', Lith *slýstu* 'slide, slip', Latv *slīst* 'slip', OCS *slědŭ* 'track (in the grass)', Rus *sležỳ* 'slip', Grk ὀλισθαίνω 'slip', OInd *srédhati* 'fails, errs' (< *'slides off'?). If the Old Indic word belongs here, then *sleidh-* is clearly of PIE age; otherwise, a word of the west and center of the IE world.

?*sleubh- 'slide'. [*IEW* 963–964 (*sleub(h)-); Wat 61 (*sleubh-); Buck 10.42]. Lat *lūbricus* 'slippery, smooth', OE *slūpan* 'slide, slip', *slīefan* 'put on clothes', *slīefe* 'sleeve' (> NE *sleeve*), OHG *sliofan* 'sneak, prowl, slink', Goth *sliupan* 'sneak, prowl, slink'. Possibly a late western dialect word.

See also **Slimy**; **Smear**. [D.Q.A.]

SLIMY

(s)lei- 'sticky, slimy, slippery'. [*IEW* 662 (*lei-), 670–671 (*leip-); Wat 35–36 (*lei- ~ *slei-); Buck 15.77]. This root shows a pattern of extended forms, mostly verbal and with meanings related to adhering or sticking, and sometimes the distinction between this and homophonous *lei-* 'to pour, flow' (and possibly other roots of that shape) becomes blurred or obscured. (1) *(s)lei-n-*: OIr *as-lena* 'pollute, stain', Lat *linō* 'to anoint, smear', OCS *slina* 'spit', Grk ἀλίνω 'to anoint, smear'. OInd *lināti* 'bends down, ducks, hides' and then presumably later 'clings to' has been traced back to a root *lī-* and sometimes placed here in spite of the semantic distance between the root at hand and the apparent older meaning in Indic. (2) *(s)lei-p-*: ON *leifa* 'leave over', OE *belīfan* 'remain, stay', OHG *bilīban* 'remain, stay', Goth *bileiban* 'remain, stay', Lith *lìpti* 'to stick, be sticky', Latv *lipt* 'to stick, attach to', OCS *pri-lĭpjǫ* 'stick on/to', TochAB *lip-* 'remain'. Other suggested cognates have been Lat *lippus* 'sore-eyed, bleary-eyed'; Alb *laparos* 'I sully, dirty' or 'stink' has long been controversial here while a set of variants including *gëlepë, glepë* (< *ke + *loipā) 'eye secretion' has been placed here as well with less resistance; Hit *lippanzi* 'lick, lap (up)' was earlier considered part of this etymology based on a meaning of 'smear, paint' but the more recent semantics make this very unlikely; OInd *rip-* 'to smear, adhere (to)' shows a frequent variant with initial *l-* in later texts, e.g., OInd *limpáti* 'smear', has been very frequently connected here. (3) *(s)lei-m-*: OIr *slemon* 'slick, slippery, polished', Lat *līmus* 'mud', ON *slīm* 'slime', *līm* 'glue', OE *slīm* 'slime' (> NE *slime*), *līm* 'lime, mortar, bird-lime' (> NE *lime*), OHG *slīmen* 'to polish', MHG *līm* 'glue', Rus *slimák* 'slug, snail'. Lat *līmax* 'snail, slug' and Grk λείμαξ 'snail, slug' perhaps reflect a borrowing (direction uncertain) while Grk λειμών 'damp meadow' has also been placed here but is also uncertain. The use of mud/clay in creating smooth surfaces in construction has been understood as providing a direct link between the meaning 'mud' and 'slick, polished', in the context of a broader set of building vocabulary. This group, most productive in the northwest, presents a strong case for PIE status, notably with the *p*-suffixed forms.

(s)meug- ~ *(s)meuk- 'slick, slippery (from wetness)'. [*IEW* 744–745 (*meug- ~ *meuk-); Wat 4 (*meug-); BK 521 (*maw-/*məw-)]. OIr *mocht* (< *muk-to) 'soft, tender', Lat *mungō* (nasal form with *-g-*) 'blow nose', *mūcus* (with *-k-*) 'mucus', ON *mugga* 'drizzle', *mjūkr* 'soft, malleable', OE *smūgan* 'creep', MLG *smucken* 'to adorn' (< 'make sleek')(< Proto-Gmc *(s)mug-), Grk μύσσομαι (< *muk-i̯e/o) 'I blow my nose'. These forms have been connected, farther from the

sense central to this etymology, to forms meaning 'to run away, slip away, flee': Lith *mùkti* 'slip away from', Latv *mukt* 'slip loose', OCS *mŭčati* 'chase', ORus *mŭknuti sja* 'pass over', OInd *muñcáti* 'looses, frees', TochA *muk-* 'to let go, give up', TochB *mauk-* 'to let go, give up', perhaps connected by a sense like 'to slip off, away', *mäk-* 'run'. The root is well attested in the northwest with Greek providing the most immediate connection outside of that area. From **meu-* 'damp'.

See also ANOINT; FISH; SMEAR; SNAIL. [J.C.S.]

Further Reading

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SLING

?*(s)bhond-nehₐ 'strap, sling'. [cf. *IEW* 989 (**sp(h)e(n)d-*)]. Lat *funda* (< **bhond-ehₐ*) 'sling', Grk *σφενδόνη* (metathesized from **σφονδένη*) 'sling'. The Latin-Greek equation, though showing some phonological irregularities, may betoken something of (late) PIE age.

Slings are probably among the earliest weapons and they are depicted, at least, from the early Neolithic, e.g., in paintings from Çatal Hüyük in Anatolia. Neolithic sites have also yielded both small stones and clay pellets that have been interpreted as sling stones.

See also TOOL. [D.Q.A.]

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SLIP *see* SLIDE

SLOETREE

****dhergh-*** 'sloetree, blackthorn (*Prunus spinosa*)'. [*IEW* 258 (**dheregh-*)]. OIr *draigen* 'sloetree, blackthorn (*Prunus spinosa*)', Wels *draen* 'thornbush', OHG *dirn(-baum)* '(cornel) cherry', NHG (dial.) *dirnlein* 'cornel cherry', Rus *derën* ~ *dëren* 'cornel cherry', SC *drên* 'cornel cherry', Kashubian *dřón* 'thorns', Pol (dial.) *dzrón* 'barberry (*Berberis* spp.)' (barberries are shrubs with spines, yellow flowers, and oblong red berries) (Gmc and Slav < **dhérghno-*). A northwestern IE term for 'sloetree, blackthorn' which shows semantic specialization to 'thorn' in both Celtic and Slavic and to 'cornel cherry' in both Slavic and Germanic. The various reflexes suggest either an old *n*-stem noun **dhérghōn* (gen. **dhr̥ghnós*) or an old root noun **dhérghs* (gen. **dhr̥ghós*) to which has been added, independently in Celtic and Germanic-Slavic, the derivational **-no-* so common in IE tree names.

See also TREES. [D.Q.A.]

SMALL

****men-u/u̯o-s*** 'thin (in density), sparse, fine'. [*IEW* 728–729 (**men-*); cf. Wat 41 (**men-*); Buck 12.66]. (1) **men-u/u̯o-*: OIr *menb* 'small, tiny', Lat *minus* 'less' (but may rather be connected with **mei-*), Grk *μάνυ* 'small', Arm *manr* 'small, fine', OInd *manā́k* 'a little, slightly'; (2) **menk-* 'lacking'. [*IEW* 729 (**men-k-*)]. OHG *mengen* 'lack', Lith *meñkas* 'small, unimportant, little', ?Hit *maninku-* 'short, near, narrow', TochA *mank* 'lack, debt', TochB *menki* 'lack'. Very uncertain is Lat *mancus* 'crippled, maimed' which has also been placed here. The root itself is secure for PIE and both derived forms show reasonable distributions.

?*dhebh- 'makes small?'. [GI 684 (**dʰebʰ-*)]. Hit *tepnu-* 'make small, lessen the size or quantity of', *tēpu-* 'small, few', Av *dəbənaotā* 'you deceive', OInd *dabhnóti* 'harm, deceives'. The semantic connection between Anatolian and Indo-Iranian is by no means sufficiently secure to ascribe IE status.

??*hₐelpos 'weak'. [*IEW* 33 (**alp-*); Buck 12.56]. Lith *al̃pti* 'to lose consciousness' was earlier placed here but now seems related to *lèpti* 'be mollycoddled, spoiled; become effeminate', Grk *ἀλαπαδνός* 'weak' is more likely to be related to a family of words meaning 'empty', Hit *alpa(nt)-* 'sick, weak', OInd *álpa-* 'small' has been placed here, assuming *álp-a* rather than *ál-pa*, and thence to Proto-Indo-Iranian **al-/ar-*, cf. OInd *áṇu-* 'small'. Either solution is very uncertain and the connection to this etymon must be rejected. The entire set, accepted in earlier works, has nothing left to recommend it.

See also THIN; WEAK. [J.C.S.]

SMEAR

****leip-*** 'adhere, stick; smear'. [*IEW* 670–671 (**leip-*); Wat 36 (**leip-*)]. ON *leifa* 'leave over', OE *belīfan* 'remain', OHG *bilīban* 'remain', Goth *bileiban* 'remain', *af-lifnan* 'remain', *bilaibjan* 'leave remaining', Lith *limpù* 'adhere', Latv *lipu* 'adhere', OCS *pri-lĭpjǫ* 'stick on', Hit *lipp-* 'smear, paint', OInd *limpáti* 'smears', TochB *lip-* 'remain'. Cf. Grk *λιπαρός* 'fat, anointed, strong', TochAB *lyipär* 'remainder'. Widespread and old in IE.

****hₐlei-*** 'smear' (pres. ****hₐlinéhₐti***). [*IEW* 662 (**lei-*); Wat 35–36 (**lei-* ~ **slei-*)]. OIr *as-lena* 'stain', Lat *linō* 'smear', Lith *laistaũ* 'smear', Grk *ἀλίνω* 'spread, smear', OInd *lināti* 'pastes', TochB *linā-* '± stick, place'. Reasonably widespread and old in IE.

?*smeid- 'smear'. [*IEW* 966–967 (**smē-*)]. OE *be-smītan* 'smear', OHG *(bi)smīzan* 'smear', Goth *bi-smeitan* 'anoint', *ga-smeitan* 'smear', Arm *mic* (< **smidi̯o-*) 'dirt'. Dubious. If the Armenian word belongs here with the Germanic (by no means a certainty), then we have evidence perhaps for a late IE word of the west and center.

See also ADHERE; ANOINT; SLIMY; WORK. [D.Q.A.]

SMELL

****h₃ed-*** 'smell' (= 'give off a smell'). [*IEW* 772–773 (**od-*); Wat 45 (**od-*); Buck 15.21; BK 371 (**ut'-/*ot'-*)]. Lat *oleō* 'smell, stink', Lith *úodžiu* 'smell', Latv *uōžu* 'smell', OCzech *jadati* 'investigate, sniff out', Grk *ὄζω* 'smell', Arm *hotim* 'smell'. At least a word of the west and center of the IE world.

****pū-*** (****puhₓ-***?) 'stink'. [*IEW* 848–849 (**pū-*)]. Lat *pūteō* 'stink', Lith *pūdau* 'rot', Latv *pūt* 'stink', Grk *πύθω* 'become

rotten', Av *puyeiti* 'rots', OInd *pūyati* 'stinks'. An old word in IE, almost certainly of onomatopoeic origin.

See also NOSE; PUS; ROT. [D.Q.A.]

SMITH GOD

?*ul̥kānos 'smith god'. [Del 75]. Lat *Volcānus* (smith god), Oss *wærgon* (smith god). Although smith gods are found in the mythologies of the various IE peoples, e.g., the Celtic Goibniu and the Greek Hēphaistos, these comparisons are usually generic and may be found among non-IE peoples as well. One of the few striking parallels among a number of the smith deities of the various IE stocks is that he is described as lame and/or a dwarf in Latin, Germanic and Greek tradition. But the postulation of a PIE smith god from the linguistic evidence rests primarily on the similarity between the Latin and Ossetic names. That the Latin form is cognate with the Iranian is by no means secure. It is usually considered a borrowing from Etruscan; and Raetic *velχanu* is also compared here. An Aegean origin has also been proposed where we find the name *ϝελχανός* on Crete. It has been suggested that the Cretan form may be Luvian and hence compared with Hit *walhmi* 'I hit'. Previous attempts to associate the name with OInd *ulkā́* 'meteor' should be rejected and there is no evidence for a PIE **ulkā* 'firebrand' as has been sometimes suggested. The comparison then remains etymologically most obscure.

See also CRAFT GOD; GOLD; METAL; SILVER. [E.C.P.]

SMOKE

dhuh$_2$mós 'smoke'. [*IEW* 261 (**dhū-mo-*); Wat 14 (**dheu-*); GI 388 (**d^{h}eu-H/s-*); Buck 1.83]. Lat *fūmus* 'smoke', OPrus *dumis* 'smoke', Lith (pl.) *dū́mai* 'smoke', Latv (pl.) *dūmi* 'smoke', OCS *dymŭ* 'smoke', Grk *θῡμός* 'spirit', OInd *dhūmá-* 'smoke'. OHG *toum* (< **dhouh$_2$mo-*) 'steam' may be cognate but not MIr *dumach* 'sandbank, heap, mass, clouds, mist'. The word is clearly PIE and derives from **dheuh$_2$-* with a meaning difficult to establish, perhaps something like 'be in (com)motion, smoke'. The same root lies behind Hit *tuhhā(i)-* 'cough'.

k^{w}h$_a$u̯ep- or ***k$^{(w)}$uh$_a$p-*** 'smoke, seethe'. [*IEW* 596 (**ku̯ēp-*); Wat 34 (**k^{w}ēp-*); Buck 1.83; Schrijver 260]. Lat *vapor* 'steam', Lith *kū́pu* 'boil, seethe', *kvẽpti* (with *ē*) 'breathe, cough', *kvā̃pas* 'breath', Latv *kûpêt* 'smoke, steam', OCS *kypěti* 'seethe', Alb *kapitem* 'am tired, exhausted', Grk *καπνός* (< **kuh$_a$ep-*) 'smoke'. The second root form **k$^{(w)}$uh$_a$p-* assumes metathesis, secondary **k$^{(w)}$h$_a$ep- > ku̯ap-* hence: Lat *vap-* and Grk **kh$_a$u̯ep-* or **kuh$_a$ep- > *kh$_a$ep-*; with b-variant, or rather *-bn- > -pn-*: Goth *af-hvapjan* ~ *af-hvapnan* 'choke'. To be rejected here are: OIr *ad-cobra* 'want', Lat *cupiō* 'wish, desire', OInd *kopáyati* 'makes tremble, shake'. Perhaps a late IE term in Europe.

(s)m(e)ug(h)- 'smoke'. [*IEW* 971 (**(s)meukh-*); Wat 62 (**smeug-*); Buck 1.83]. OIr *mūch* (with *ū*) 'smoke', Wels *mwg* (with *ŭ*) 'smoke', OE *smoca* (< **smug-on-*), *smēocan* (< **smeug-*) 'smoke' (> NE *smoke*), Grk *σμῡ́χω* 'burn in moldering fire', Arm *mux* (< **(s)mukho-*) 'smoke'. The root vowel was **eu/u* with the long *ū* unexplained; the Arm *x* is also unclear. At least a word of the west and center of the IE world.

See also BURN; FIRE. [R.S.P.B.]

Further Readings

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Schrijver, P. (1991) *The Reflexes of the PIE Laryngeals in Latin*. Leiden, Rodopi.

SMOOTH

ghleh$_x$dh-(ro)- 'smooth' < 'shiny'. [*IEW* 431–432 (**ghlādh-*); Wat 21 (**ghel-*); Buck 15.77]. Lat *glaber* 'smooth, esp. without hair', ON *glaðr* 'happy, shining', OE *glæd* 'shining, happy' (> NE *glad*), OHG *glat* 'shining, bright clear', OPrus *glosto* 'whetstone', Lith *glodùs* 'smooth, smoothed', Latv *glās(t)ît* 'to stroke, caress', OCS *gladiti* 'smooth', Rus *gladkyj* 'shiny'. Northwestern development of the root **ghel-* 'shine'.

See also SHINE. [J.C.S.]

SNAIL

sleimak- 'snail, slug'. [*IEW* 663 (**(s)lei-*); cf. Wat 35–36 (**lei-*)]. Rus *slimák* 'snail', Grk *λεῖμαξ* 'slug'. From **(s)lei-* 'be slimy'. A word of the center of the IE world.

See also ANIMAL; SHELLFISH; SLIMY. [D.Q.A.]

SNAKE

h$_1$óg^{w}his (gen. ***h$_1$ég^{w}his***) 'snake'. [*IEW* 43–45 (**og^{u}hi-*); cf. Wat 2–3 (**ang^{w}hi-*); GI 444 (**og^{ho}i-*); Buck 3.85]. Wels *euod* 'sheepworm', *euon* 'horseworm' (< Proto-Celtic **eghi-*), OHG *egala* 'leech', Grk *ἔχις* (< **éghi-*) 'viper', *ἔχιδνα* (< **éghidni̯h$_a$*) 'viper', *ὄφις* 'snake', Arm *iž* (< **ēg^{w}hi-*) 'snake, viper', Av *aži-* 'snake', OInd *áhi-* 'snake'. TochB *auk* 'snake' probably belongs here as well, if Proto-Toch **eu̯k* is metathesized from expected **eku̯* (much as Proto-Gmc **aug-an-* 'eye' is from PIE **h$_3$ók^w*). The most plausible reconstruction would seem to be an acrostatic **h$_1$óg^{w}hi-* ~ **h$_1$ég^{w}hi-* 'snake'. The lack of labio-velar in Grk *ἔχις* and *ἔχιδνα* must be attributed to contamination with the word for 'eel'. **h$_1$óg^{w}his* is probably the oldest word we can reconstruct for 'snake' in PIE. Its semantic field embraces more than simply the reptile but also, apparently, a mythic serpent or dragon that is slain by a great hero in Indo-European myth. This is seen in a series of formulaic correspondences in IE literature. In the *R̥gveda*, one of the central motifs is the slaying of the serpent (Vr̥tra) by Indra where one finds the phrase *áhann áhim* 'he killed the serpent' on eleven occasions. The cognate expression—*janat ažīm* '[who] killed the serpent'—is found in the Iranian *Avesta* where Θraētaona slays the dragon Aži Dahāka. In Greek passages depicting the slaying of monsters we also find both the same word for 'serpent' and 'kill' which supports the existence of an underlying PIE phrase **(h$_1$e)g^{w}hent h$_1$óg^{w}him* 'he killed

the serpent'. In Germanic the corresponding dragon-slaying motif retains the same verb but has replaced the word for 'serpent' with Proto-Gmc **wurmiz* 'worm, snake'. The next word, **h$_a$(e)ng^{w}h(i)-*, has replaced **h$_1$óg^{w}his*, or shunted it into semantically marginal areas, in much of the west and center of the IE world.

***h$_a$éng^{w}his** (gen. ***h$_a$ŋg^{w}héis**) 'snake'. [*IEW* 43–45 (**ang^u(h)i-*); Wat 2–3 (**ang^{w}hi-*); GI 444 (**ang^{ho}i-*); Buck 3.85]. OIr *escung* (*DIL escong*) 'eel' (< *'water-snake', where *ung* < **ang^{w}hō*), Wels *llysyw(en)* 'eel', Lat *anguis* 'snake', OHG *unc* 'snake', OPrus *angis* 'non-poisonous snake', Lith *angìs* 'snake', Latv *uôdze* 'snake', Rus *už* 'snake', Pol *wąż* 'snake' (< Proto-Slavic **ǫžĭ-* 'snake'), Illyrian (Hesychius) *ἄβεις* 'snakes', Arm *awj* (gen. sg. *awji*) 'snake'. Note that the aspiration of the final consonant is guaranteed by the Old Irish and Armenian forms.

***néh$_1$tōr** (gen. ***n̥h$_1$trós**); Italo-Celtic ***n̥h$_1$trik-** 'snake'. [*IEW* 767 (**nē-tr*); Wat 44 (**nētr*); GI 445; Buck 3.85]. OIr *nathir* (gen. *nathrach*) 'snake', Wels *neidr* snake', Lat *natrix* 'watersnake', ON *naðr* ~ *naðra* 'snake, adder', OE *nǣdre* 'snake, adder' (> NE *adder*, by misdivision of *a nadder*), OHG *nāt(a)ra* 'snake, adder', Goth *nadrs* 'snake, viper'. From **(s)neh$_1$-* 'sew', as 'the twister'. A word of the western part of the IE world. There appears to have been at least an incipient semantic division between **h$_a$éng^{w}his* and **néh$_1$tōr* in those areas where both were found, the former being 'snake' in general while the second tending to be the poisonous 'adder (*Vipera berus*)'. The attestation of an inherited 'snake' word in Ireland, a land famous since classical times for the absence of snakes, indicates how cultural vocabularies may extend beyond the geographical borders of a language (snakes are, however, known from Britain).

See also Animal; Crawl; Dragon; Eel; Three-headed Monster. [D.Q.A.]

Further Reading

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SNEEZE *see* COUGH

SNORE

?*srenk- 'snore'. [*IEW* 1002 (**srenk-*); Wat 64 (**srenk-*)]. OIr *sreinnid* (< **srenk-n-*) 'snores', Grk *ῥέγκω* 'snore'. Certainly originally an onomatopoeic word. The close equivalence of Old Irish and Greek gives some evidence that the formation is of PIE age.

See also Dream; Moan; Sleep. [D.Q.A.]

SNOW

***sneig^{w}h-** 'to snow'. [*IEW* 974 (**sneig^{u}h-*); Wat 62 (**sneig^{w}h-*); GI 587 (**sneig^{ho}-*); Buck 1.76]. OIr *snigid* 'rains, snows', Wels *nyfio* 'snows', Lat *nivit* (*nī-*?), *ninguit* 'snows', ON *snýr* 'snows', (past participle *snivenn*), OE *snīwan* 'snows', OHG *snīwan* 'snows', Lith *sniẽga*, *sniẽgti* (*sniñga*, *sni̇̃gti*) 'snows', Latv *snieg*, *snigt* 'snows', OCS *osněžiti* 'snows', Grk *νείφει* 'snows', Av *snaēžaiti* 'snows', OInd *snehāyati* 'causes to fall (?)', (aor.) *a-snih-at* 'remain lying (?)'. Distribution assures PIE status. There is no evidence for s-mobile (OInd *nihāka-* 'snow-storm?' cannot, therefore, be cognate). Old Indic has no old present, the other languages have the full-grade except for Celtic, and the length of the *i* in Lat *nivit* is uncertain. It has been supposed that the verb, clearly of PIE status, was originally athematic and ablauting, but as the 3rd sg. was the only form in regular use (cf. 'it snows, it is snowing'), perhaps the Celtic forms are denominal. The Latin nasal present is no longer supported by Umb *ninctu*, as this form is of uncertain interpretation and had it been truly cognate, it should have begun with **sn-*. Lith *sniñga* is probably recent. The Old Indic meaning can be derived from '(let) fall like snow'. It is improbable that OInd *snihyati* was originally 'is moist, sticky, attached to' and that all the other languages innovated in the same way; moreover, the later Indic languages as well as Iranian retain the meaning 'snow'.

***snig^{w}h-s** (fem.), ***snóig^{w}h-os** (masc.) 'snow'. [*IEW* 974 (**snig^{u}h-*); Wat 62 (**snig^{w}h-*); GI 587 (**sneig^{ho}-*); Buck 1.76]. OIr *snige* (neut.) 'drip, flowing', *snecht(a)e* 'snow', Wels *nyf* (< **snig^{w}h-*) 'snow', Lat *nix*, *nivis* (fem.) 'snow', OE *snāw* 'snow' (> NE *snow*), OHG *snē(o)*, *snēwes* (masc.) 'snow', Goth *snaiws* 'snow', OPrus *snaygis* 'snow', Lith *sniẽgas* 'snow', Latv *sniegs* 'snow', OCS *sněgŭ*, SC *snìjeg* 'snow', Grk (acc. fem.) *νίφα* 'snow', *νιφάς*, *νιφετός* 'snowstorm', (pl.) 'snowflakes', Shugni *žinij* 'snow', OInd *snéha* - 'slime, grease', Prakrit *siṇeha-* 'snow', TochB *śiñcatstse* (from implied noun **śiñce* 'snow' < **snig^{w}hi-* or **snig^{w}hen-*) 'snowy'. The Germanic and Baltic and Slavic forms derive from **snoig^{w}hos* as well as OInd *snéha-*; if this is old, Baltic, Slavic and Old Indic also agree on root-accented **snóig^{w}hos*. The form with the zero grade must be old, and Latin and Greek point to a feminine root noun.

See also Ice; Seasons. [R.S.P.B.]

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SOCIAL ORGANIZATION

The social organization of PIE society is relatively opaque given the few terms that can be reconstructed to PIE and even there semantic discrepancies between phonologically cognate words often renders the reconstruction of the proto-meaning hopelessly vague. Also, social structures of any IE community and the terms which were employed to describe them were in a constant state of evolution so that whatever has survived to be reconstructed can be but a fragment of the original system. For example, B. Schlerath's experiment in reconstructing Germanic social terms from the *Heliand* and *Beowulf* found that of twenty-seven words or compounds cognate to both, only two have survived in each of the descendant languages a thousand years later, i.e., OE *eorl* (cf. OHG *erl*) > NE *earl*, OE *cyning* > NE *king*, OHG *scalk* ~

scalch (cf. OE *scealc* 'servant') > NHG *schalk* 'scoundrel, servant, OHG *kuning* > NHG *König* 'king'.

The Four-Tiered System

Emile Benveniste proposed a widely accepted hierarchical system for PIE society comprising four social tiers. The lowest and smallest unit was the **dom(h_a)-* 'household, nuclear family', and this term had a corresponding designation for its social head, the **dems-pot-* 'master of the house'. The families were gathered together into a **u̯ik̂-* 'clan' which also had a corresponding head, **u̯ik̂pots*, and the clans were grouped together into a single **ĝen-* 'tribe'. The territorial expression of where a people lived as well as the largest social collective was provided by Av *dahyu* and OInd *dásyu-* (< **dās-*). But such a structure only occurs in canonical order in the *Avesta* (e.g., Y 31, 18) and its attribution to PIE rests primarily on the presence of cognate terms in other IE languages; there is no solid evidence for the actual "system" in another IE stock (e.g., the Greek cognate of **ĝen-* is *γένος* and means 'family' rather than 'tribe'). Moreover, critical examination of the Iranian terms reveals that there is considerable imprecision of meaning of any word above the level of the family. That the **u̯ik̂-* designates something larger than a nuclear family there is little doubt but there is no evidence that it must be interpreted as a 'clan of related families sharing a common ancestor' or any other more precisely defined larger unit of social organization. Similarly, the Indo-Iranian **ẑantu-* has far too broad a semantic range to permit the reconstruction of an Indo-Iranian word for 'tribe' much less a PIE term although it must have designated something larger than a *u̯ik̂-* and smaller than a 'country'. Some form of kingship has been widely accepted for PIE with reconstruction of **h_3rḗĝs* 'king'.

Tribal System

The system proposed by E. Benveniste rests largely on east IE material and has been challenged by Kim McCone who has proposed a social system in which the primary levels of discrimination are based on the social organization of warfare and its relationship to the **teutéh$_a$-*, generally translated 'tribe' or 'people', which is unaccounted for in Benveniste's system but which McCone regards as an essential feature of PIE social organization. The structure envisaged by McCone distinguishes between warriors who operate outside the remit of tribal society and those who live within its system. This sets into opposition the **kor̥i̯os* 'war-band' of youths who engage in predatory behavior, living like wolves by hunting and raiding. In terms of the reconstructed lexicon, characteristics of this group would comprise concepts such as 'youth' (**h_ai̯uh$_x$-n̥-k̂o-*) which often covers the meaning of 'young warrior' in the various IE stocks, e.g., OIr *óac* 'youth; warrior'. Here he would also include **mori̯os* 'deadly (one)' which McCone takes to underlie both OIr *muire* 'leader', and the Indo-Iranian words associated with the youthful war-bands, e.g., Av *mairyō* 'villain, scoundrel', OInd *márya-* 'young man'. Finally, to this group would be assigned the entire complex associating warriors with wolves. A characteristic of this group would be the achievement of wealth (or at least subsistence) by raiding for booty for which IE retains at least one designation in **soru*.

At about the age of twenty, the young man was recognized as a marriageable adult (**u̯ih$_x$rós* or **h_anḗr*) and capable of owning and defending his home and possessions (**pótis*). His place was then in the 'tribe' (**teutéh$_a$-*) which consisted of three or four 'clans' (**u̯ik̂es*) under the rulership of a **h_3rḗĝs* 'king'. In terms of warfare, the man graduated from light foot-soldier to chariot-fighter or some other form of more advanced military unit. Later, he became an 'elder' (**sénos* or **ĝerh$_a$ōnts*) and he was absolved from military service but could be required to give advice (**médōnts*) based on his age and experience.

The system here, which offers an alternate structure to that proposed by Benveniste, is obviously founded on the function of males in society largely to the exclusion of females. Moreover, the reconstruction of the position of 'king' to a position of secular rather than religious leadership is by no means certain. Finally, there are other social terms, even those pertinent to the structure proposed such as **leh$_2$u̯os* 'people (under arms)', which need to be incorporated into an explanatory framework.

Social Complexity

Social organizations when represented in a hierarchic scale are often crudely divided into four broad categories of social complexity. The lowest is that of the band or egalitarian society. This form of society correlates broadly with hunter-gatherers (in archaeological terms, the Palaeolithic and Mesolithic) who are marked by small social units, bands consisting of a number of families. Status is based on one's age, sex or own personal achievements but cannot be inherited. Economic relations tend to be reciprocal. As the economic basis of the reconstructed PIE lexicon is clearly that of agriculturalists and there are sufficient terms for "leaders" and other social categories, it seems clear that PIE social organization was more complex than a simple band/egalitarian society.

The second level of complexity is termed ranked or tribal and this type of society does correlate with simple agricultural communities (Neolithic in archaeological terms) although it may also comprise certain hunter-gatherers, especially those occupying areas of abundant and stable resource availability. Residential populations may run to the hundreds and there may be some degree of craft specialization. Status positions are limited and are based on such factors as line of descent and order of birth. Society is to some extent fragmented into sodalities, subunits of society engaged in specific tasks (religious, military, social), and clans. Exchange within such systems may involve redistribution of goods extracted from family members or others by a person in authority. Authority itself is familial or sacred, i.e., it is sanctioned by "norms" recognized by the society but compliance is not based on coercion. There is nothing in the second ranked level of society

that could not be accommodated in our reconstructions of the IE lexicon (agriculture, crafts, sodalities, war-bands, leaders, concepts of inheritance, etc.).

The third level has been termed stratified or a chiefdom and reflects increased organization over that of the earlier ranked or tribal society. Here there are institutionalized differences according to the subsistence economy (these may be reflected, for example, in early Mesopotamia and Indus Valley towns or, in a more explicitly IE context, in the palace economies indicated by the Linear B tablets of Mycenaean Greece with its many craft-specialists). The aristocracies in such systems have preferential access to goods and authority tends to be based on the territorial unit rather than the family. Urbanism and the explicit statement of laws, usually written, have been seen as characteristics of this level of social complexity. In general, many although not all of these characteristics appear to conform more easily with Bronze Age societies of some regions of Eurasia, e.g., the Aegean, Central Asia, Indus Valley, although there is certainly evidence for some concentration of power elites already by the later Neolithic of some regions. It would seem that if PIE society had to be fixed somewhere on a scale of complexity, it would fit comfortably into the second level or between the second and third broad categories.

Finally, there are states in which there is a concentration of both economic and political power in the state. The authority of the state is such that it has the monopoly on the use of force. Urbanism and other characteristics of what one would generally term a "civilization" are also required features of state societies.

The level of social complexity that we generally attribute to the period of the proto-language would fall very short of a state-level society and there are no linguistic nor comparative cultural grounds whatsoever for attributing an urban background to the Proto-Indo-Europeans. T. Gamkrelidze and V. Ivanov have assigned to PIE a high level of social organization that lacked some of the features of the state societies of the Near East yet nevertheless must have been in contact with them to account for the high degree of PIE social complexity. There are, however, no grounds for assuming such complexity since there is nothing in the social organization or material culture of PIE that could not be ascribed to most societies over a broad area of Eurasia during the fourth millennium BC.

See also Age Set; Army; Comparative Mythology; Leader; King; Kinship; Warfare. [J.P.M.]

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SOFT

***melh$_1$-** 'soft'. [*IEW* 716–717 (**mel-*); Wat 40 (**mel-*); Buck 15.75; BK 518 (**mul-/*mol-*)]. (1) without extension: OInd *mlā́yati* 'withers, fades'; (2) **melh$_1$-k* 'weak, foolish' [*IEW* 719 (**melə-k-*)]: MDutch *malsch* ~ *mals* 'reckless, soft', OSax *malsk* 'proud', Goth *un-tila-malsks* 'reckless' (Germanic forms with additional *-sk* suffix), Grk *μαλακός* (< **mleh$_1$k-*) 'soft, weak', Hit *malisku-* 'weak, light, unimportant'. Also placed here may be Lith *mùlkis* 'fool, idiot' and perhaps OInd *malvá-* 'thoughtless, foolish' with similar semantic developments proposed from the same root; (3) **m̥ldus* [*IEW* 718 (**mel-d-*); Buck 15.75]: Wels *blydd* 'tender, juicy, soft', Lat *mollis* 'soft', OPrus *maldai* 'young', OCS *mladŭ* 'young, soft', Rus *mólod* 'young', Grk *βλαδύς* 'slack', *ἀμαλός* 'tender, weak', Arm *mełk*' 'soft, limp', OInd *mṛdú-* 'soft, tender, mild'. Reasonably broad attestation and clear semantics makes this a very probable PIE root with several distinct formations.

***l(e)nto-** 'soft'. [*IEW* 677 (**lento-*); Wat 36 (**lento-*)]. Wels *llathr* (< **lantro-* < **l̥nt-ro-*) 'smooth', Lat *lentus* 'soft, tender', OE *līðe* 'soft, lithe' (> NE *lithe*), OHG *lind(i)* 'mild, soft'. Earlier attempts to connect Lith *leñtas* 'quiet, calm' (more recently seen as a loanword) and OInd *latā-* 'creeping, climbing plant' are doubtful, leaving this only securely reconstructed to the northwest area. See also the tree-name 'linden'.

?*menkus 'soft'. [*IEW* 730–731 (**men(ə)k-*); Buck 15.75]. Latv *mîkst* 'soft', OCS *mękŭkŭ* 'soft', Alb (Gheg) *mekan* 'weak', (Tosk) *mekur* 'weak'. OInd *mankú-* 'weak' has been set with this series but the word occurs only once and is very uncertain (perhaps meaning 'tottering, frail' or 'stupefied') and is without secure etymology. Everything but the Albanian is either highly questionable or derives directly from a verb 'to knead', cf. Lith *mìnkyti* 'to knead', Latv *mîcît* 'to knead'. The sparse attestation seems confined to Baltic, Slavic and Albanian, and may be a regional isogloss, possibly connected with the root 'to knead'.

See also Linden; Melt; Slack; Weak. [J.C.S.]

SOMA *see* SACRED DRINK

SOME

***sm̥mós** 'some, any; someone, anyone'. [*IEW* 903 (**s$_e$mo-*); Gl 740–741 (**se/om-*; Wat 57 (**sem-*); BK 184

(**sam-*/**səm-*)]. ON *sumr* 'some', OE *sum* 'someone, a certain one' (> NE *some*, indefinite *-some* in 'three-*some*'), OHG *sum* 'some, any', Goth *sums* 'anyone', Grk *ἀμός* 'anyone', *ἀμῶς* 'somehow', *οὐδαμός* 'no one', Arm *amen(-ain)* 'all, each', Av/OPers *hama-* 'anyone', OInd *samá-* 'anyone'. From **sem-* 'one'.

See also ALONE; SAME. [C.F.J.]

SON

putlós 'son'. [*IEW* 842–843 (**pu-tlo-s*); Buck 2.41; Szem 3.1]. Osc *puklum* 'son', Paelignian (dat. pl.) *puclois* 'to the sons', Arm *ustr* 'son' (< **usl* remodeled after *dustr* 'daughter'), OPers *puça-* 'son', Av *puθra-* 'son', Oss *fyrd* 'son', OInd *putrá-* 'son'. Distribution suggests PIE status. Traditionally taken as **p(a)u-* 'small' plus **-tlo-* (a diminutive suffix), hence 'small one' or the like.

suh$_x$nús 'son'. [*IEW* 913 (**sūnús*, **suiús*); Wat 58 (**su(ə)-nu-*); GI 667 (**suyo-/*sunu-*); Buck 2.41; Wordick 149–150; Szem 3; BK 169 (**s^{y}aw-/*s^{y}əw-*)]. ON *sunr* 'son', OE *sunu* 'son' (> NE *son*), OHG *sunu* 'son', Goth *sunus* 'son', OPrus *soūns* 'son', Lith *sūnùs* 'son', OCS *synŭ* 'son', ORus *synŭ* 'son', Rus *syn* 'son', Av *hūnuš* 'son', OInd *sūnú-* 'son', TochB *soṃśke* '(young) son'. Cf. also **suh$_x$iús* 'son' in Myc *i-ju* 'son', Grk *υἱύς* 'son', TochA *se* 'son', TochB *soy* 'son'. From **seuh$_x$-* 'bear, beget'. Clearly of PIE status.

The widely dispersed **putlós*, which lacks clear morphological analysis, was possibly the earliest PIE designation for 'son', a term that may have included 'brother's son' as well if the PIE kinship system can be reconstructed as of the Omaha type. The biological son was further distinguished by the special designation 'offspring' **suh$_x$nus*. Attempts have been made to interpret this derivation as suggesting that *only* the son (in contrast to the daughter) was valued as the true offspring; alternatively, it has been suggested that the more active sense 'to give birth' was also the underlying metaphor in a patrilineal society where it was the males who perpetuated the line and were the procreators of future generations.

See also DAUGHTER; KINSHIP; YOUNG. [M.E.H.]

SON-IN-LAW

ĝomh$_x$-ter- 'son-in-law'. [*IEW* 369 (**ĝem(e)-*); cf. Wat 19 (**gemə-*); GI 775; Buck 2.63; Wordick 241–242; Szem 20; BK 215 (**t̰'im-/*t̰'em-*)]. Alb *dhëndër* (Gheg *dhândërr*) 'son-in-law', Av *zāmātar-* 'son-in-law', Sog *z"m"t'r* 'son-in-law', OInd *jā́matar-* 'son-in-law'. Related are Av *zāmaoya-* (< **zāma-vya-*) 'son-in-law's brother', Pashto *zām* 'son-in-law'. A word of the center and east of the IE world. From **ĝemh$_x$-* 'marry'.

ĝm̥mh$_x$-ro-s ~ ***ĝm̥-ro-s*** 'son-in-law'. [*IEW* 369 (**ĝem(e)-*); GI 664; Szem 20; BK 215 (**t̰'im-/*t̰'em-*)]. Bret *gever* 'son-in-law', Lat *gener* 'daughter's or sister's husband' (once sister's son), Grk *γαμβρός* 'son-in-law; brother-in-law; father-in-law'. A word of the west and center of the IE world and as with the preceding entry, derived from **ĝemh$_x$-* 'marry'.

ĝemh$_x$-to-s 'son-in-law' (confused with the root **ĝenh$_1$-* 'beget', cf. Sogd *z'tyy* 'son' < **ĝn̥h$_1$-to-ko-*, cf. OInd *jātaka-* 'birth'). [*IEW* 373–374 (**ĝen-*); GI 664; Szem 20; BK 215 (**t̰'im-/*t̰'em-*)]. Lith *žéntas* 'daughter's husband', Latv *znuôts* 'daughter's husband', OCS *zętĭ* 'son-in-law', Rus *zjatĭ* 'daughter's husband; sister's husband; husband's sister's husband'. From **ĝemh$_x$-* 'marry'.

All of these words appear to be built on the same root **ĝemh$_x$-* which is usually taken to indicate 'to marry', i.e., 'the one who married, the son-in-law'. However, it has also been suggested that the underlying root meant specifically the payment of the bride-price by the groom (cf. the related Pashto *zəman* 'payment').

See also KINSHIP; MARRIAGE. [M.E.H.]

SONG *see* SING

SON'S DEATH

A recurrent narrative structure in the epics of a number of IE stocks is the death of a son who is killed unwittingly by his father. The best known Old Irish version involves the hero Cū Chulainn who sires a son abroad in Scotland who is enjoined not to reveal his name until he meets his father. Raised apart, he comes to Ireland in search of his father and when he fails to reveal his name (Connla) when challenged, he unknowingly must confront his father who is charged with the defence of Ulster and the son is killed in the combat. Similarly, in the Germanic *Hildebrandslied*, the warrior Hildebrant must inadvertently kill his own son Hadubrant. The theme recurs in Russian epic where Ilya of Muron must kill Sokolnichek, his son, who was raised apart. In the Iranian epic *Shāhnāmeh* it is Sohrāb who must unknowingly confront his son Rostam. Similar examples are found replicated within these various stocks and in several others, e.g., in the *Mahābhārata* of ancient India Arjuna kills his son Babhrūvāhana. The theme, widespread as a folkloric motif, has been ascribed to Indo-European by some. The various versions reflect different motifs associated with the IE hero: the killing of the son effectively places limitations on the achievement of warrior prowess, isolates the hero from time by cutting off his generational extension, and also re-establishes the hero's typical adolescence by depriving him of a role (as father) in an adult world.

[J.P.M.]

Further Reading

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SOON

moḱs 'soon'. [*IEW* 747 (**moḱs*)]. OIr *mō* 'soon', MWels *moch* 'soon', Lat *mox* 'soon', Av *mošu* 'as soon as', OInd *makṣú* ~ *makṣū́* 'soon'. Although not abundantly attested, this root is at least of PIE antiquity.

See also TIME. [P.B.]

SOUND

dhu̯en- 'sound'. [*IEW* 277 (**dhu̯en-*); Wat 15 (**dhwen-*);

BK 75 (*daw-/*dəw-)]. ON *dynr* 'din, noise', OE *dynian* 'resound', *dyne* 'noise, loud sound' (> NE *din*), Lith *dundėti* 'rumble, roar, thunder', OInd *dhvánati* 'sounds, roars'. Sufficiently widespread on the peripheries of the IE world to make PIE status likely.

su̯enh$_x$- '(re)sound'. [*IEW* 1046–1047 (*su̯en-); Wat 68 (*swen-); GI 106; Buck 15.44]. OIr *seinnid* 'plays a musical instrument', Lat *sonō* 'resound, make a noise', OE *swinsian* 'sing, make music', *swinn* 'music', Latv *sanēt* 'sound, make noise', Av *apa-h^{v}ana-* 'turn back sound', OInd *svánati* 'roars, makes sound', *prásvanita-* 'emitting a noise'. Cf. the derivative *su̯onh$_x$ós in Lat *sonus* 'sound', OE *swan* 'swan' (< *'singer') (> NE *swan*), OInd *svaná-* 'sound'. Attested only in the western and eastern margins of the IE world but clearly of PIE date.

klun- 'resound'. [cf. *IEW* 550 (*k(e)len-); VW 200]. OE *hlynn* 'sound, noise, roaring stream', *hlynnan* ~ *hlynnian* 'resound', OSax *gihlun* 'din, uproar', TochAB *käln-* (< *klän-) 'resound'. The semantic similarity of the Germanic and Tocharian words makes for a likely PIE word.

gerg- '± crack, resound'. [*IEW* 384 (*ger-); cf. Wat 20 (*gerə-)]. OE *cearcian* 'creak, gnash', *cracian* 'resound, crack' (> NE *crack*), OHG *krāhhon* 'crack', Lith *gìrgždžiu* 'creak', Arm *karkač* 'noise, OInd *gárjati* 'roars, growls, howls'. Onomatopoeic but widespread.

ĝhu̯onos 'a sound, voice'. [*IEW* 490 (*ĝhu̯ono-s)]. OCS *zvonŭ* 'noise', Rus *zvon* 'ring', Alb *zë* 'voice', Arm *jayn* 'voice', TochA *kaṃ* 'melody', TochB *kene* 'melody'. A derivative of *ĝheu(h$_x$)- 'call, invoke'. At least dialectally present in late PIE.

k̂léutrom 'a sound'. [*IEW* 605–606 (*k̂leu-tro-m); cf. Wat 31 (*kleu-); BK 260 (*k[h]ul-/*k[h]ol-)]. OE *hlēoðor* 'sound', OHG *hliodar* 'sound', Av *sraoθram* 'song', OInd *śrótra-* 'tone'. From *k̂leu- 'hear'. We have here a regular derivation that might have occurred independently in Germanic and Indo-Iranian.

?*d(h)eup- '± resound loudly'. [*IEW* 221–222 (*deup-)]. Latv *dupêtiês* 'resound heavily', SC *dupiti* 'strike (of noise)', perhaps TochAB *täp-* 'announce, proclaim'. The Tocharian word seems semantically distant. If it belongs here, we have evidence for a word at least of the center and east of the IE world.

See also Animal Cry; Bird Cry; Moan; Noise. [D.Q.A.]

SOUP *see* BROTH

SOUTH *see* RIGHT

SOW

seh$_1$- 'sow'. [*IEW* 890 (*sē(i)-); Wat 56 (*sē-); GI 594 (*seH(i)-); Buck 8.31]. Lat *serō* (if < *sisō) 'sow', ON *sá* 'sow', OE *sāwan* 'sow' (> NE *sow*), OHG *sā(w)en* 'sow', Goth *saian* 'sow', Lith *sėju* 'sow', OCS *sěję* 'sow', Hit *šā(i)-* 'sow, throw', and perhaps OInd *sī́ra-* '(?seed-)plow'. From a nominal derivative *sóh$_1$r̥ (?): Lith *sóra* 'millet', Latv *sāra* 'common millet (*Panicum miliaceum*)', TochAB *säry-* (< *soh$_1$r-i̯e/o-) 'plant', *särm* 'seed; cause'. Widespread and old in IE. Ultimately the same as *seh$_1$- 'throw'.

See also Agriculture; Seed. [D.Q.A.]

SPACE

réuh$_x$es- 'open space'. [*IEW* 874 (*reu̯es-); Wat 55 (*reuə-); BK 594 (*raw-ah̄-/*rəw-ah̄-)]. OIr *rōi* (*DIL rōe*) 'field, open land', Lat *rūs* (gen. *rūris*) 'country-side, open fields', Av *ravah-* 'space'. From *reuh$_x$- '(be) open', preserved as such only in TochAB *ru-* '(be) open'. Cf. also OCS *ravĭnŭ* 'level' and pre-Gmc *ruh$_x$mo-: ON *rūm* 'room', OE *rūm* 'space (extent or time); room' (> NE *room*), *rȳman* 'clear, open up; retire, yield', MHG *rūm* 'room', Goth *rūms* 'open space'. Widespread and old in IE.

ĝhóh$_1$ros 'gap, empty space'. [VW 196]. Grk χῶρος ~ χώρᾱ 'free space, area between, land, etc.' (cf. also χωρίς 'without', χωρίζω 'separate'), TochA *kär* 'hole', TochB *kāre* 'pit'. An *e*-grade (i.e., *ĝhéh$_1$reh$_a$-) is reflected in Grk χήρᾱ 'widow'. Distribution, although limited, suggests IE antiquity.

telp- 'have room'. [*IEW* 1062 (*telp-)]. OIr *-tella* (*do-alla*) (< *-tl̥p-neh$_a$-) 'have room for something', Lith *telpù* 'find or have room enough; enter', *talpà* 'capacity, holding power', OCS *tlŭpa* 'heap, troop, group', OInd *tálpa-* 'bed', TochB *tälp-* 'be emptied, purged' (< *'have room [inside]'). Distribution suggests PIE status.

[A.D.V., D.Q.A.]

SPARROW

sper- 'some type of small bird, ?sparrow'. [*IEW* 991 (*sper-(g-)-); Wat 63 (*sper-); GI 458 (*sp[h]er-k̂-)]. Corn *frau* 'crow', ON *spǫrr* 'sparrow', OE *spearwa* 'sparrow' (> NE *sparrow*), OHG *sparo* 'sparrow', Goth *sparwa* 'sparrow', Grk (Hesychius) σπαράσιον 'starling', TochA *ṣpār* 'a kind of bird', TochB *ṣpāra-* 'kind of bird'. Although the sparrow is the most commonly seen of birds throughout Eurasia, there is no certain evidence for cognates outside of Germanic although there are phonological cognates in other stocks but with consistently different or, in the case of Tocharian, uncertain semantics that render the meaning of PIE most uncertain

The lack of a common word for a bird, *Passer domesticus*, that was little differentiated from India to Ireland is perplexing. It seems clear that the ancient IE tribes abandoned their IE term and took on words presumably borrowed from the indigenous inhabitants of the European or west Asiatic regions into which they migrated.

See also Birds. [J.A.C.G.]

SPAWN *see* FISH

SPEAK

u̯ekʷ- 'speak' (pres. ***u̯ókʷti***). [*IEW* 1135–1136 (*u̯ek[u̯]-); Wat 75 (*wekʷ-); GI 733–734 (*wek[ho]-); Buck 18.21]. OIr *focull* (*DIL focal*) (< *u̯okʷtlo-) 'word', Lat *vocō* 'call', ON *vátta* (< Gmc *wahta-) 'talk, recall', OHG *giwahanem*

'recall', OPrus *wackītwei* 'entice', *enwackēmai* 'we invoke', Grk *εἶπον* (< **eweik^{w}om* < **e-u̯e-u̯k^w-om* which = OInd aorist *ávocam*) 'spoke', Arm *gočem* 'call', Av *vak-* 'say', OInd *vívakti* 'speaks, says', TochB *wesk-* (< **u̯ok^{w}sk̂e/o-*) 'speak, say', TochAB *weñ-* (< **u̯ok^{w}neu-*) 'will speak, say'. Widespread and old in IE. To be found at least in the center and east of the IE world is the derivative **u̯ék^{w}es-* 'speech': Grk *ἔπος* 'speech', Av *vačah-* 'speech', OInd *vácas-* 'speech'. Cf. also putative PIE **n̥-uk^w-tos* 'unspoken' which appears in OIr *anocht* (a metrical fault) and OInd *anukta-* 'unuttered'. Widespread and old in IE. Either this word or the next would appear to have been *the* word for 'speak, say' in PIE. There is some evidence that **(s)u̯er-* may have formed the present and **u̯ek^w-* the aorist of a single paradigm (such is the situation in Greek for instance).

***(s)u̯er-** 'say, speak'. [*IEW* 1049 (**su̯er-*), 1162 (**u̯er-*); Wat 68 (**swer-*), 77 (**wer-*); GI 200 (**wer-*); Buck 18.26; BK 492 (**war-/*wər-*)]. From **u̯er-* (pres. **u̯érie/o-*): OPrus *wertemmai* 'we swear', Rus *vru* 'lie', Grk *εἴρω* 'say', Hit *wer(i)ye-* 'call, summon', Palaic *wērti* 'calls'; cf. OE *word* 'word' (> NE *word*), Goth *waúrd* 'word', Lith *var̃das* 'name'. From **u̯erh$_1$-*: Grk *ῥῆμα* 'word, phrase, speech', Av *urvāta-* 'law'. From **su̯er-*: Lat *sermō* (< **su̯ermō* by dissimilation of the two labials) 'conversation, lecture', *sors* (< **sur̥ti-*) 'promise, oracle', Osc *sverrunneí* 'to the spokesman', ON *sverja* 'swear', OE *swerian* 'swear' (> NE *swear*), OHG *swerien* 'swear', Goth *swaran* 'swear', OCS *svariti* 'despise; battle', *svarŭ* 'battle', Lydian *śfarwa-* '± oath', TochA *ṣärm* 'origin', TochB *ṣarm* 'origin' (Toch < **su̯érmn̥*). In one form or another, extremely widespread and obviously old in IE.

***h_1eĝ-** (or ***h_1eh_1ĝ-**) 'say'. [*IEW* 290 (**ēg-*); Wat 16 (**ēg-*); Buck 18.22]. Lat *āiō* 'say', *adāgium* 'proverb', *axāre* '± call by name, give a name to', *axāmenta* 'songs, prophecies', Grk *ἦ* 'said', *ἄνωγα* 'I ordered', Arm *asem* (rebuilt from **as* 'he said' < **ac*) 'say', *ar̄-ac* 'proverb', TochAB *āks-* 'announce, proclaim, instruct'. Widespread and old in IE.

***bheh$_a$-** 'speak' (pres. ***bhéh$_a$ti**). [*IEW* 105–106 (**bhā-*); Wat 5 (**bhā-*); Buck 18.22; BK 21 (**bah-/*bəh-*)]. Lat *for* 'speak', *fātum* 'utterance, prophetic declaration, oracle', ON *banna* 'prohibit, curse', OE *bannan* (< **bhh̥$_a$-nu-e/o-*) 'summon, proclaim' (> NE *ban*), *bōgan* 'boast', Rus *báju* 'relate', Grk *φημί* 'say', Arm *bay* 'says'. Both Greek and Armenian show a derivative **bhh̥$_a$ti-* 'word' (Grk *φάσις*, Arm *bay*); Greek and Latin reflect a **bheh$_a$meh$_a$-* 'saying' (Grk *φήμη* 'saying, speech', Lat *fāma* 'talk, reputation, fame'; Greek and Old Norse reflect **bhoh$_a$no/eh$_a$-* 'sound, something said' (Grk *φωνή* 'voice, sound', ON *bōn* 'prayer, request'). At least a word of the west and center of the IE world. One would like to include OInd *bhāṣate* 'speaks, says, tells' here though the presence of *-ṣ-* rather than *-s-* is not well explained. If the Old Indic word does belong then the distribution of attestations would seem to guarantee PIE status.

***ter-** '± speak out'. [*IEW* 1088–1089 (**tor-*); Buck 18.22; Weeks 249]. MIr *to(i)rm* (< **tor-smen-*) 'noise, din, uproar', OPrus *tārin* 'noise', Lith *tariù* ~ *taraũ* 'say', *tarmė̃* 'utterance', OCS *trŭtorŭ* 'sound', Rus *torotóritĭ* 'chatter, prattle', Arm *t'rt'rak* 'good speaker', Hit *tar-* 'say', *tarta-* 'curse', Luv *tātariya-* (< **tótorie/o-*) 'curse', TochB *tär-* '± plead, implore'. Widespread and old in IE. Often taken to represent a semantic specialization of **ter-* 'pierce', but more probably an independent though homophonous root.

***u̯ed-** 'raise one's voice'. [*IEW* 76 (**au̯-* ~ **au̯ed-*); Wat 73 (**wed-*); Buck 18.21]. OHG *far-wāzan* 'deny, disavow', Lith *vadinù* 'call, name', OCS *vaditi* 'accuse', *vada* 'calumny', Grk (Hesychius) *γοδάω* (i.e., *(ϝ)οδάω*) 'lament', OInd *vádati* 'speaks, says; raises one's voice, sings', *vādáyati* 'lets sound, plays a musical instrument', *vadmán-* 'speaker, singer', *vāda-* 'sound, statement'. Widespread and old in IE.

***mleuh$_x$-** 'speak'. [Buck 18.21, 18.22]. OCS *mlŭviti* 'create a disturbance', *mlŭva* 'disorder', Rus *mólvitĭ* 'say, express', *molvá* 'talk, report, cry', Czech *mluviti* 'utter', Av *mraoiti* 'says, recites', OInd *brávīti* 'says', ?TochB *palwaṃ* (< **mluh$_x$-eh$_a$-*) 'mourns'. The denasalization of **ml-* to **bl-* apparently in both Old Indic and Tocharian is unusual in both languages. The archaic morphology of the Indic and Iranian words suggests a certain antiquity within IE; at least a later word of the IE world.

***spreg-** 'speak'. [*IEW* 996–997 (**(s)p(h)ereg-*); Wat 64 (**spreg-*); GI 101; Buck 18.21]. OE *sprecan* ~ *specan* 'speak' (> NE *speak*), OHG *sprehhan* ~ *spehhan* 'speak', Alb *shpreh* 'express, voice, utter'. Perhaps related to **sperh$_x$g-* 'make a noise'. In any case the agreement in this word for 'speak' by both Germanic and Albanian is a significant shared innovation.

***rek-** 'speak'. [*IEW* 863 (**rēk-*); BK 600 (**rak[^{h}]-/*rək[^{h}]-*)]. OCS *rešti* 'say', *rěčĭ* 'speech', *rokŭ* 'term', *račiti* 'like', TochA *rake* 'word', TochB *reki* 'word'. Perhaps here, but only very doubtfully, is (late) OInd *racáyati* 'produces, forms, causes'. The Slavic and Tocharian agreement suggests at least a late PIE word.

***tolk^w-** 'speak'. [*IEW* 1088 (**tolk^u-*); Wat 71 (**tolk^w-*); Buck 18.21]. OIr *ad-tluichethar* 'gives thanks, rejoices', *do-tluchethar* 'prays', Lat *loquor* (< pre-Lat **tloquor*) 'speak', OCS *tlŭkŭ* 'meaning, explanation', Rus *tolk* 'sense'. Perhaps we should add OInd *tarka-* 'presumption, conjecture', *tarkáyati* 'guesses, reasons about, intends' but these are more usually, and probably rightly, taken as specialized semantic uses of **terk^w-* 'wind'. Thus a word only of the west and center of the IE world.

?*g^{w}et- 'say'. [*IEW* 480–481 (**g^{u}et-*); Wat 25 (**g^{w}et-*); Buck 18.22; BK 343 (**k^{w}ut^y[^{h}]-/*k^{w}ot^y[^{h}]-*)]. ON *kveða* 'say', OE *cweðan* 'say' (cf. [archaic] NE *quoth*), OHG *quedan* 'say', Goth *qiþan* 'say', Arm *koč'em* 'call', Sogd *žut* 'says', OInd *gadati* (if < **gatati*) 'says'. If all of these words belong together, we have evidence for a word of PIE antiquity.

Speak solemnly

***k̂eh$_1$-** 'declare solemnly' (pres. ***k̂éh$_1$ti**). [cf. *IEW* 566 (**k̂ens-*)]. Alb *thotë* 'says', Grk *ἀκήν* 'silently' (i.e., 'not speaking'), Av *sātar-* 'one who commands', OPers *θātiy* 'says, proclaims', perhaps OInd *śmasi* if it means 'we proclaim' (and

if < _*ḱh$_1$-mes-i_). Reasonably widespread; clearly old in IE.

*ḱeh$_1$s- 'instruct' (pres. **_*ḱéh$_1$sti_**). [_IEW_ 533] (_*ḱās-_). Av _sāh-_ 'instruct, call', OInd _śā́sti_ 'punishes, controls, commands, instructs', TochA _käs-_ (< _*ḱoh$_1$s-_) 'chides, reprimands'. An enlargement of the previous word, confined to the east of the IE world.

_*ḱe(n)s-_ 'declare solemnly'. [_IEW_ 566 (_*ḱens-_); Wat 29 (_*kens-_); GI 704 (_*ḱ^{h}ens-_)]. Lat _cēnseō_ 'proclaim solemnly, judge, assess, estimate, tax', Osc _kenzsur_ 'censor', Av _sə̄nghaiti_ 'proclaims', OInd _śáṃsati_ 'recites, praises, declares, vows', _śáṃsa-_ 'recitation, invocation, praise'. The variant without _-n-_ occurs in Germanic: OE _herian_ 'praise', OHG _harēn_ 'call', Goth _hazjan_ 'praise'. Related in some way to the previous two entries though just how is not clear. Widespread and old. In all stocks which preserve it there are religious and/or juridical associations with this word which should be reconstructed for PIE.

_*h$_{1/4}$ōr-_ 'speak a ritual formula'. [_IEW_ 781 (_*ōr-_); GI 703 (_*or-_)]. Lat _ōrō_ 'address, solicit (the gods)', _ōrāculum_ 'oracle' (< *'place of soliciting [the gods]'), Rus _orú_ 'cry out', Grk _ἀρᾱ́_ 'prayer', _ἀράομαι_ 'pray', Hit _ariya-_ 'consult an omen, determine by oracle', OInd _ā́ryati_ 'acknowledges, praises'. Distribution indicates PIE status.

*sek^w- 'say, recount publicly'. [_IEW_ 897–898 (_*sek$^u̯$-_); Wat 57 (_*sek^w-_); Buck 18.22]. OIr _insce_ 'discourse', _scél_ 'news, recitation', MWels _hebaf_ 'say', _chwedl_ 'recitation, news', Lat _īnseque_ 'say!', ON _segja_ 'say', OE _secgan_ 'say' (> NE _say_), OHG _sagēn_ 'say', Lith _sakaũ ~ sekù_ 'say', _pāsaka_ 'story, recitation', OCS _sočiti_ 'indicate', Grk _ἐννέπω_ 'say'. At least a word of the west and center of the IE world. Whether ultimately related to homophonic roots meaning 'see' and 'follow' cannot be determined.

*(s)pel- 'say aloud, recite'. [_IEW_ 985 (_*(s)pel-_); Wat 63 (_*spel-_); Buck 18.43]. ON _spjall_ 'speech', OE _spell_ 'speech' (> NE _spell_), OHG _spel_ 'speech', Goth _spill_ 'speech, story' (Gmc < _*spelnom_), Alb _fjalë_ (< _*spelnom_) 'word, tale, statement', Arm _ara-spel_ 'saying, riddle'; without _*s-_: Latv _peĺt_ 'revile, slander', Grk _ἀπειλέω_ (if < _*n̥-pelnō_) 'hold out in promise or threat', TochAB _päl-_ 'praise'. With or without the Greek, sufficiently widespread as to be certainly of PIE date.

_*i̯ek-_ '± express, avow'. [_IEW_ 503 (_*i̯ek-_); Wat 79 (_*yek-_); GI 186 (_*yek^h-_)]. MWels _ieith_ (< _*i̯ekti-_) 'speech', Lat _iocus_ 'jest, joke', Umb _iuka_ 'prayers', Osc _iúklei_ '± in the (formula of) consecration', OHG _jëhan_ 'express, explain', _jiht_ (< _*i̯ekti-_) 'expression, avowal', OInd _yā́cati_ 'asks, solicits, entreats' (< earlier *'offer, present verbally'). Widespread and old in IE.

There is a large number of words that we can reconstruct for PIE that apparently meant either 'speak' (where the emphasis is on the ability to speak) or 'say' (where the emphasis is on the result of speech) or both. Quite probably there were nuances of meaning, e.g., as in NE _speak, say, talk, converse_, that we cannot recover now. Nonetheless, the large number of verbs with this general meaning does suggest the importance that PIE speakers gave to the ability to speak. Indeed, GI have suggested that in PIE society there was a dualistic separation between speaking/non-speaking which equated with human/animal. They based this on the observation that the root _*men-_ 'think', the rational act which is (they suggest) uniquely human, also yields terms for 'speaking', e.g., Lith _miñti_ 'call, name', Latv _minêt_ 'recall, name', ORus _měniti_ 'speak', Hit _memma-_ 'speak', Luv _mām̆manna-_ 'speech'. While this connection may be so, it must also be noted that there is a proliferation of the noises emitted by animals (barking, howling, grunting, etc.) that might also be attributed to early IE if not PIE itself.

In the exercise of speech, there is a widespread poetic tradition found in various IE stocks that recognizes a distinction between a higher or marked register of speech and a lower, unmarked form as one might, for example, find in NE _steed_ versus the unmarked _horse_. This distinction is generally presented as a reflection of the differences between the language of gods and that of humans. It is found in the Old Norse _Poetic Edda_ where in the _Alvíssmǫl_ we find that the earth is called _jorð_ 'earth' by men but _fold_ ('land') by the divine Æsir and there are a string of other such examples, e.g., (with the words used by humans/gods) _himinn/hlýrnir_ 'heaven', _māni/mýlinn_ 'moon', _sōl/sunna_ 'sun'. There are some slight traces of this practice in Greek, e.g., in Homer, an unidentified bird is called a _κύμινδις_ by humans but a _χαλκίς_ by the gods. In Old Indic, there are also traces of this practice to be found where the _Śatapatha-Brāhmaṇa_ employs in opposition the unmarked _áśva_ 'horse' with the divine _háya_. Rather than human vs. divine opposition, there are traces in Irish literature for the ascription of terms to the various mythical peoples who were believed to have invaded Ireland. Somewhat similar is the Avestan restriction of the reference of certain words to demons as the result of the religious reformation associated with Zaraθuštra. Thus Proto-Indo-Iranian _*daivá-_ 'god' (cf. OInd _devá-_ 'god') has come to mean at first 'pre-Zoroastrian god' and then 'demon' or _karpan-_, originally 'priest', is in Avestan 'non-Zoroastrian priest' or 'priest to demons'.

See also Ask; Babble; Call; Murmur; Noise, Poetry; Pray; Sound; Stammer. [D.Q.A., J.P.M.]

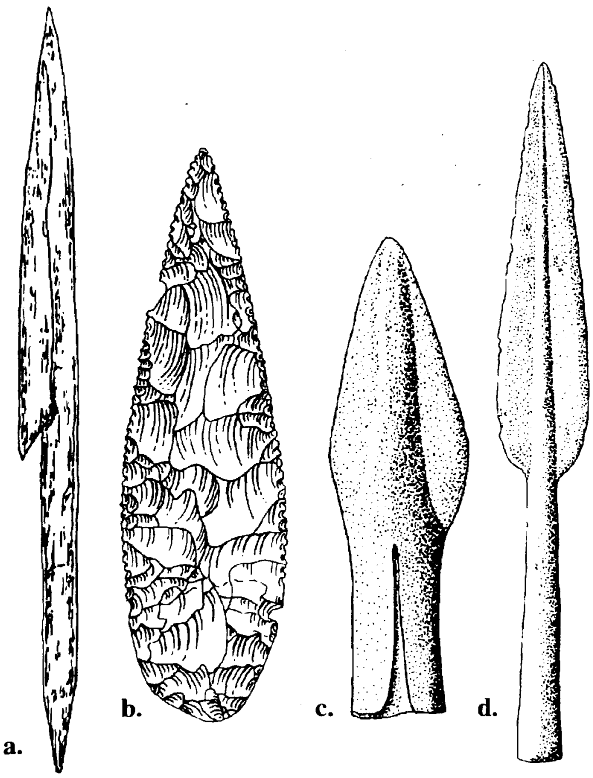
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SPEAR

*g^{w}éru 'spear, spit'. [_IEW_ 479 (_*g$^u̯$eru-_); GI 203 (_*k^{o}eru-_)]. OIr _biur_ (_DIL bir_) 'spear, spit', Wels _bēr_ 'spear, spit', Lat _verū_ 'spit', Umb _berva_ 'spit, javelin', ?Goth _qairu_ 'thorn, spike' (if this _hapax legomenon_ is not to be read _pairu_), Av _grava-_ (< _*g^{w}reu̯o-_) 'staff'. Though the Germanic cognate



Spear a. Bone spear-point from Potapovka culture; b. Flint spearhead from Maykop culture; c. Bronze spearhead from Middle Dnieper culture; d. Late Bronze Age (Urnfield) spearhead.

is doubtful, the presence of the original derivative in Avestan as well as Celtic and Italic strongly suggests that this word was once widespread in PIE.

***$h_a$eiḱsmo/eh$_a$-** 'spear, pointed stick'. [*IEW* 15 (**āiḱ-*); Buck 20.26]. OPrus *aysmis* 'spit', Lith *iẽšmas* 'spit, spear', Latv *iesms* 'spit', Grk *αἰχμή* 'point of a spear, of an arrow; spear'. Without any other certain cognates or root connections, it is very likely that we have a word at least of the center of the IE world.

***ḱúh$_x$los** 'spear, spit'. [Mayrhofer II, 651]. Arm *slak'* (< **sul-*) 'pike, spear, dagger, arrow', MPers *swl'ck* (+ */sūrācay/*) 'grill' (< *'complex of spits'), OInd *śū́la-* 'pike, spit, javelin'. A word of the IE southeast.

***ḱel(h$_x$)-** '± (spear)point'. [*IEW* 552–553 (**ḱel-*)]. MIr *cāil* 'spear', *celtair* (< **ḱel(h$_x$)i-* or **ḱl̥io-*) 'spear(point)', ON *hali* 'point of shaft, tail', OPrus *kelian* 'spear' (borrowed from or at least influenced by some western IE language in the preservation of **k-*), Lith *šìlas* 'heath' (as a prickly place), Alb *thel* (< **ḱol-ni-* or **ḱl̥-ni-*) 'big nail, spike', Grk (pl.) *κῆλα* 'arrowshafts', OInd *śalá-* 'staff', *śalyá-* 'spear or arrowhead', *śáru-* 'missile, dart, spear, arrow', *śíla-* 'ear of grain left in the field', MInd *sili-* 'arrow'. Widespread and old in IE.

***ĝhais-ó-s ~ *ĝhaises-** 'throwing spear'. [*IEW* 410 (**ĝhaiso-*)]. OIr *gae* 'spear', Wels *gwayw* 'spear', Gallo-Roman *gaesum* 'spear', ON *geirr* 'spear', OE *gār* 'spear' (cf. *gār* 'spear' + *lēac* 'leek' > OE *gārlēac* > NE *garlic*), OHG *gēr* 'spear', Goth *Gaisa-reix* 'spear-king' (personal name)(< Gmc **gaizáz*), Grk *χαῖος* 'herdsman's staff', OInd *héṣas-* 'missile'. Zero-grade from **ghh$_a$i-* 'throw'. The geographical distribution on the western and eastern peripheries of the IE world strongly suggests PIE status for this word.

?*$h_1$neĝh-es- '± spear'. [*IEW* 760 (**neĝh-*)]. OCS *noži* (< **$h_1$noĝh-i̯o-*) 'knife', Grk *ἔγχος* 'spear' (if < **$h_1$enĝhes-* with new full grade). Cf. also MIr *nes(s)* 'wound'. A word of the center of the IE world, apparently derived from a **$h_1$neĝh-* 'stab'.

The range of underlying meanings for this series of cognate sets parallels the range of possible referents in the archaeological record. Terms for 'spear', for example, that also embrace 'spit' (**g^{w}éru*, **$h_a$eiḱsmo/eh$_a$-*, and **ḱúh$_x$los*) may be accommodated by fire-hardened spears (or spits) which are known in the archaeological record since *c* 200,000 years ago. Spearheads of stone are known from at least about a 100,000 years ago and during the Mesolithic bone spearheads are occasionally recovered from the Baltic region. Other than the points fashioned from some form of organic material, it is likely that the earliest referents to spears comprise stone spearheads and possibly early metal spearheads. The latter appear by at least 3000 BC. Tanged bronze spearheads are known from the Maykop culture while the Corded Ware horizon yields a number of socketed copper spearheads. Later in the early Bronze Age these are typically made of bronze and comprise one of the most typical weapons across Eurasia. One might expect a certain proliferation of words relating to spearheads since they may have been distinguished according to use, e.g., thrusting spear versus javelin, hafting mechanism (tang, peg, loop, socket), and size.

See also POINT; POST; SHIELD; SWORD.

[D.Q.A., M.E.H., J.P.M.]

Further Reading

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SPECKLED

***perḱ-** 'speckled'. [*IEW* 820–823 (**perḱ-*); Wat 50 (**perk-*); GI 454 (**p^{h}erk^h-*); BK 46 (**p[^{h}]ar-/*p[^{h}]ər-*)]. MIr *erc* 'speckled', Wels *erch* 'speckled', Lat *pulcher* (OLat *polcher* dissimilated from **porcer* < **porcros*) 'beautiful', NHG *farbe* (< **porḱ-u̯ó-*) 'color', Grk *περκνός* 'dark-speckled', *πρακνόν* 'black', OInd *pŕ̥śni-* 'speckled'. Distribution indicates PIE status.

***rei-** 'striped, spotted'. [*IEW* 859 (**rei-*); Wat 54 (**rei-*)]. OIr *rīabach* 'streaked, striped', perhaps OE *rā* (< **róiko-*) 'roedeer' (> NE *roe*), OPrus *roaban* 'striped', Lith *raĩnas* 'striped, streaky', Latv *ràibs* 'spotted', Rus *rjabyj* 'variegated'. Though the attested reflexes are all independent formations, their geographical distribution would seem to assure at least northwestern status for the underlying **rei-*.

?*pl̥h₁u-poik/k̑os 'many-colored, variegated'. [*IEW* 795 (**pₐlu-poik̑o-*); BK 54 (**p[h]al-/*p[h]əl-*)]. Goth *filu-faihs* 'very diverse', Grk *πολυποίκιλος* 'very varied', OInd *puru-péśa-* 'multi-formed'. While the two elements are clearly built from IE forms, the case for the entire formation deriving from PIE is marred by the suggestion that the first element of the Gothic, which is found in one codex, was created to imitate the basic Greek text being translated. An Avestan reference (*Yast* 5 127) to the goddess Anāhitā as **pouru-paxšta* has been interpreted as being connected here (meaning 'aux nombreux ornements [ou broderies]') but the absence of direct support for this reading of the second element leaves this extremely speculative.

See also Color; Deer. [M.E.H., D.Q.A., J.C.S.]

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SPEW

****u̯émhₓmi*** 'spew, vomit'. [*IEW* 1146 (**u̯em-*); Wat 76 (**wemə-*); BK 490 (**wum-/*wom-*)]. Lat *vomō* 'vomit', Lith *vémti* 'vomit', Latv *vemt* 'vomit', Grk *ἐμέω* 'vomit', Av *vam-* 'vomit', NPers *vātāk* 'spittle', OInd *vámiti* 'vomits, spews out'. Archaic in morphology and widespread; clearly of PIE status.

****(s)pi(e)uhₓ-*** 'spew, spit'. [*IEW* 999–1000 (**(s)p(h)i̯ēu-*); Wat 64 (**spyeu-*)]. Lat *spuō* 'spit', ON *spýja* 'spew, spit', OE *spīwan* 'spew, spit' (> NE *spew*), OHG *spīwan* 'spew, spit', Goth *speiwan* 'spew, spit', Lith *spiáuju* 'spew', OCS *pljujǫ* 'spew, spit', Grk *πτύω* 'spit out, disgorge', OInd *ṣṭhīvati* 'spews'. With further extensions we have OE *spittan* 'spit' (> NE *spit*), Arm *t'uk'* 'spittle', TochB *pitke* (< **pyuT-sk̑-o-*) 'spittle'. Like the preceding word, widespread and certainly PIE in status. Because of its expressive meaning it has been subject to various morphological extensions and certain phonological deformations.

[D.Q.A.]

SPIN *see* TEXTILE PREPARATION

SPIRIT

****dhroughos*** 'phantom'. [*IEW* 276 (**dhrougho-s*); Wat 15 (**dhreugh-*); cf. GI 658 (**d[h]reug[h]-*)]. OIr *airdrech* ~ *aur-drach* 'phantom', ON *draugr* 'phantom', OSax *gidrōg* 'apparition, deceive', cf. OPers *drauga-* 'lie, deception, treason', Av *druj-* 'the Lie' (applying to the principle of "falsehood" of the world to the *daēvas*), OInd *drógha-* 'deceiving'. From **dhreugh-* 'deceive'. Though sometimes taken as the same word as appears for instance in Lith *draũgas* 'friend', the semantic difference is very great and the two sets are probably best kept apart.

?*lem- '(nocturnal) spirit'. [*IEW* 675 (*lem-*); Wat 36 (**lem-*)]. Lat (pl.) *lemurēs* 'nocturnal spirits' (< *'devourers of the dead'), Grk *λάμια* 'female devourer of infants' (borrowed into Latin as *lamia* 'vampire, female ogre'). Though attested in only two stocks, and then in morphologically different shapes, there is some reason to suppose that the image of the open-mouthed, devouring spirit is a PIE one. One might further compare Grk *λαμυρός* 'avid, voracious' and Latv *lamatas* 'mouse-trap'. Further afield yet are comparisons with Wels *llef* 'voice', Lith *lemóti* 'be eager for, yearn', Latv *lamâties* 'swear at; call names'.

?*dhu̯es- '± spirit'. [*IEW* 269 (**dheu̯es-*); Wat 14 (**dheu-*); GI 388 (**d[h]eu-H/s-*)]. MHG *getwās* 'phantom', Lith *dvasià* 'spirit'. Probably independent developments in the two stocks from **dhu̯es-* 'breathe'.

See also God. [E.C.P., D.Q.A.]

SPIT *see* SPEW

SPLEEN

****spelĝh-*** 'spleen'. [*IEW* 987 (**sp(h)elĝh(en, -ā)*); Wat 63 (**spelgh-*); GI 715 (**sp[h]elĝ[h]-*); BK 651 (**p[h]al-/*p[h]əl-*)]. OIr *selg* 'spleen', Lat *liēn* 'spleen', OCS *slězena* 'spleen', Grk *σπλήν* 'spleen, milt', *σπλάγχνα* (pl.) 'internal organs, entrails', Arm *p'aycałn* 'spleen', Av *spərəzan-* 'spleen', OInd *plīhán-* 'spleen'. The PIE form of this word is impossible to reconstruct because of multiple cases of phonological deformation (perhaps taboo-induced?). Whatever its form, clearly the PIE term for 'spleen'.

See also Anatomy. [D.Q.A.]

SPLINTER

****k̑ókolos*** 'splinter'. [*IEW* 523 (**k̑āk-*)]. Lith *šakalỹs* 'splinter, sliver; split wood, firewood', Latv *sakaļi* 'logs which are burned in sections to illuminate threshing; resinous chips of pinewood' (Baltic < **k̑okoli̯o-*), OInd *śákala-* 'chip, fragment, splint, log'. Distribution suggests at least late PIE status.

See also Plants. [P.F.]

SPLIT

****bheid-*** 'split' (pres. ****bhinéd[s]ti***). [*IEW* 116 (**bheid-*); Wat 6 (**bheid-*); Buck 9.27]. Lat *findō* 'split', ON *bīta* 'bite', OE *bītan* 'bite' (> NE *bite*), OHG *bīzzan* 'bite', Goth *beitan* 'bite'. Grk *φείδομαι* 'spare' (< *'separate oneself from'), OInd *bhinádmi* 'split'. Cf. the derivative **bhid[s]tós*: Lat *fissus* 'split', OInd *bhittá-* 'a split'. Widespread and old in IE.

****u̯aĝ-*** 'split'. [*IEW* 1110 (**u̯āg-*); Wat 73 (**wag-*)]. Lat *vāgīna* 'sheath', Grk *ἄγνῡμι* 'break apart, snap, crush', Hit *wāki* 'bites', OInd *vájra-* weapon of Indra (i.e., 'cudgel', or 'thunderbolt'), TochAB *wāk-* 'split open, separate but remain attached; bloom'. Reasonably widespread; certainly old in IE.

****skel-*** 'split (apart)'. [*IEW* 923–925 (**(s)kel-*); Wat 59 (**skel-* ~ **kel-*); GI 102; Buck 9.27]. MIr *scoiltid* 'chips', ON *skilja* 'separate', *skil* 'distinction' (borrowed > NE *skill*), OE *ā-scelian* 'separate, part', Goth *skilja* 'butcher', Lith *skelù* 'chip', Latv *šķelt* 'chip', OCS *skala* 'stone' (< *'splitter'), Grk *σκάλλω* 'hoe, stir up', Arm *skalim* 'split, be splintered', perhaps *čelum* 'split' (though the initial consonant is not well

explained), Hit *iskalla-* 'slit, slash, tear'. Attested widely enough to be of PIE antiquity.

See also CUT. [D.Q.A.]

SPONGY

?*sṷombhos 'spongy'. [*IEW* 1052 (**sṷomb(h)o-s*); Wat 68 (**swombho-*)]. ON *svǫppr* 'mushroom' (with difficult **b* rather than **bh*), OE *swamm* 'mushroom', OHG *swamm* ~ *swamp* 'fungus', Grk σομφός (supposing **sw-* to *s-*) 'spongy'. Limited to two stocks, with additional formal problems, this is not probable although still accepted by some as IE.

[J.C.S.]

SPREAD

***peth$_a$-** 'spread out (the arms)' (pres. ***p$_e$tnéh$_a$ti**). [*IEW* 824–825 (**pet-*); Wat 51 (**petə-*); BK 38 (**p[^{h}]at[^{h}]-/*p[^{h}]ət[^{h}]-*)]. ScotsGaelic *aitheamh* 'fathom', OWels *etem* 'fathom' (Celtic < **peth$_a$imeh$_a$-*), Lat *pandō* 'spread out, unfold, unfurl', *pateō* 'extend, reach to', *passus* 'step, fathom', ON *faðmr* 'fathom', OE *fæðm* 'fathom' (> NE *fathom*), OHG *fadam* 'fathom', OPrus *pette* 'shoulder', *pettis* 'shovel, shoulderblade', Lith *petỹs* 'shoulder', Grk πίτνημι ~ πετάννῡμι 'spread out, unfold, unfurl'. Cf. the derivative **péth̥$_a$lom* in OHG *fedel-gold* 'goldleaf', Grk πέταλον 'leaf, petal'. At least a word of the west and center of the IE world.

***pleth$_2$-** 'spread out'. [*IEW* 833–834 (**plăt-*); Wat 51–52 (**plat-*)]. OIr *lethaid* 'extends, expands', Wels *lledu* 'extend, expand', Lat *plantō* 'plant', Lith *splečiù* 'widen, spread out', *plėtóti* 'expand', *plantù* 'become wider', Av *fraθah-* 'breadth', OInd *práthati* 'spreads out', *práthas-* 'breadth'. Widespread and old in IE. Even more widely attested is the derived adjective **pl̥th$_2$ús* 'broad'.

***ster-** 'spread out'. [*IEW* 1029–1031 (**ster-*); Wat 66 (**ster-*); Buck 9.34; BK 113 (**t[^{h}]ar-/*t[^{h}]ər-*)]. From **ster-* we find two enlargements: (1) **streu-* (pres. **str̥néuti*) and (2) **streh$_3$-* (pres. **str̥néh$_3$ti*). The first occurs in OBret *strouis* 'have opened out', Lat *struō* 'build up', *struēs* 'heap', ON *strā* 'strew', OE *strēowian* 'strew' (> NE *strew*), OHG *strewen* ~ *strouwen* 'strew', Goth *straujan* 'strew' (Gmc < **stroṷeįe/o-*), SC *strȍvo* 'heap (of fruit scattered by a storm)', Grk στόρνῡμι 'spread out', Av *starənaoiti* 'spreads out', OInd *str̥ṇóti* 'spreads out'. The second occurs in OIr *fo-sern* 'spread under', Lat *sternō* 'spread out' (Lat and OIr < **str̥n(h$_3$)e/o-*, with some rebuilding of the root vowel), Alb *shtrij* (< **str̥n(h$_3$)įe/o-*) 'stretch', Av *starənāti* 'spreads out', OInd *str̥ṇā́ti* 'spreads out'. Presents without **-n-* occur in OCS **pro-stīrǫ* 'stretch', Alb *shtie* (< **sterįe/o-*) 'lay down, throw, miscarry'. Though not occurring in Hittite or Tocharian, this verb is otherwise widespread and surely old in IE.

***kleh$_a$-** 'spread out flat'. [*IEW* 599 (**klā-*)]. Lith *klóju* 'spread out, over', Latv *klāju* 'spread out, cover'; from **kleh$_a$dh-* we find Lith *klōdas* 'layer', OCS *kladǫ* 'load, lay'; from **kl(e)h$_a$t-* we find ON *hlaða* 'load', OE *hladan* 'load' (> NE *lade*), *hlōþ* 'group, troop', OHG *hladan* 'load', Goth *af-hlaþan* 'overburden', Lith *klõtė* 'layer'. A dialectal word of the IE northwest.

?*sperh$_x$g- 'strew, sprinkle'. [*IEW* 996 (**(s)p(h)ereg-*); Wat 64 (**(s)preg-*); GI 177 (**sp^{h}erHk'-*)]. Lat *spargō* 'strew, sprinkle', OE *spearca* 'spark' (> NE *spark*), NE *sprinkle*. Perhaps a word of the far west of the IE world.

See also BROAD; EXTEND; FLAT; SCATTER. [D.Q.A.]

SPRING

***bhréh$_1$ṷr̥** (gen. ***bhruh$_1$nós**) 'spring'. [*IEW* 144 (**bhrēṷr̥*); Wat 9 (**bhreu-*); Buck 1.37; Schrijver 253–256; BK 4 (**bar-/*bər-*)]. ON *brunnr* 'spring', OE *brunna* 'spring', OHG *brunno* 'spring', Goth *brunna* 'spring' (< Gmc **brunnōn*), Grk φρέᾱρ 'fountain', Arm *ałbiwr* 'spring'. From **bherh$_1$-u-* 'agitate' as in Lat *fervēre* 'to boil, be hot'. At least a word of the west and center of the IE world. The Germanic forms must have been reshaped on the basis of **bhr̥h$_1$u-n-* > **bhruh$_1$-n-*, from which an *n*-stem was formed. Perhaps the word has a root without a laryngeal, for which there is other evidence. MIr *tipra* 'spring' has been interpreted as **to-ess-brū-nt-*, but if this is correct, it is an Irish creation and not relevant to PIE (cf. *topar-* 'fountain').

***h$_a$élmos** 'spring'. [Mayrhofer I, 120]. OInd *árma-* ~ *armaká-* 'spring', TochB *ālme* 'spring'. The Old Indic-Tocharian agreement is surely significant of a late dialectal IE word. Although formally similar, European river names such as *Almus* and *Alma* and the Lith *al̃mės* 'serum, pus', *almuõ* 'pus' cannot be placed here with certainty. Semantically related perhaps is Latv *aluõgs* 'spring', Arm *ałtiwr* 'moist area, slough, swamp'.

?*kr̥sneh$_a$ ~ ?krosno/eh$_a$- 'spring, wave'. [Del 185]. ON *hrǫnn* 'spring', OE *hræn* ~ *hærn* 'spring' (< Gmc **hraznō* < **krosnā*), Grk κρήνη (Aeolic) κράννα 'spring' (there are problems deriving Grk ρη from **krasnā*), κρουνός 'spring'. For the fluctuation in meaning between Germanic 'wave' and Greek 'spring', cf. NHG *welle* 'wave': NE *well*. The word could well be PIE.

?*h$_a$eṷ(o)nt- 'spring'. [*IEW* 78 (**aṷ(e)-*); BK 382 (**ħaw-/*ħəw-*)]. Lith *?Avantà* (river name), Latv *avuõts* (< **aṷontos*) 'spring', OInd *avatá-* ~ *avaṭá-* 'spring, fountain'. The Baltic forms could derive from **aṷont-*. The Old Indic word has been considered to be non-IE because of its *ṭ*. Further connections, like a Gaulish river nymph *Aventia*, are even more uncertain as is the case for this being PIE.

?*g^{w}eleh$_a$- 'spring'. [*IEW* 47 (**guel-*); BK 361 (**q^{w}ur-/*q^{w}or-*)]. ?OE *ge-collen-ferhþ* 'proud', OHG *quella* 'source, spring'. OHG *quellan* has been connected with OInd *gal(i)-* 'drip', but this verb is late. MWels *bala* 'efflux of a river from a lake' has been derived from **belago-* < **g^{w}elh$_x$-*. Quite uncertain is Thracian κελλ- in place names like Κελλαι and Grk Δέλλοι 'spring of the Eryx river'. Too uncertain for ascription to PIE.

See also RIVER; SEA; WATER. [R.S.P.B.]

SPRING (SEASON) *see* SEASONS

SPRINKLE

pers- 'sprinkle'. [*IEW* 823]. ON *fors* ~ *foss* 'waterfall', Lith *pur̃slas* 'drivel; spray', OCS *prachŭ* 'dust' (< **porsos*), *pr̆isti̇̆* (< **pr̥sti-*) 'heaped up soil', Slov *pr̃h* 'dust, ash', *prhati* 'strew; drivel', Hit *pappars-* 'sprinkle', OInd *pr̥ṣat-* 'drop', *pŕ̥ṣant-* 'sprinkled, speckled', TochAB *pärs-* 'sprinkle' TochB *pränts-* 'spatter'. Widespread and old in IE.

See also POUR; RAIN. [D.Q.A.]

SPROUT *see* LEAF

SQUIRREL

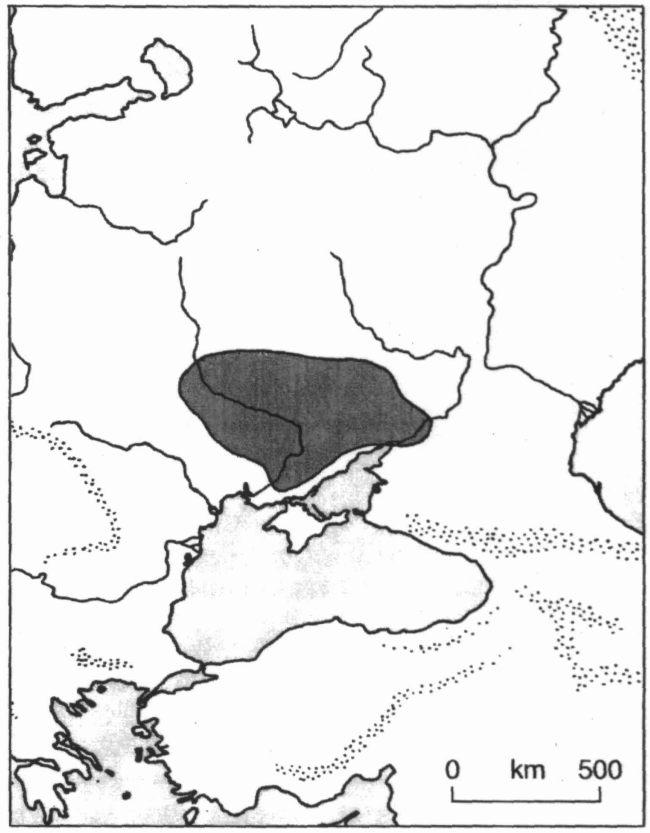
u̯eru̯er- 'squirrel (*Sciurus vulgaris*)'. [*IEW* 1166 (**u̯er-u̯er-*); Wat 77 (**wer-*); GI 441 (**we(i)wer-*)]. NIr *iora rua* 'squirrel' (*rua* 'red'), ScotsGaelic *feòrag* 'squirrel', Lat *vīverra* 'ferret', OE *āc-weorna* 'squirrel' (< *'oak-squirrel'), OHG *eihhurnō* 'squirrel', OPrus *weware* 'squirrel', Lith *vė́verìs* ~ *voverìs* ~ *vaiveris* 'squirrel, polecat', Latv *vāvere* 'squirrel', ORus *věverica* 'squirrel', Rus *véverica* 'squirrel', OPers *varvarah* 'squirrel'. Widespread and old in IE. However, both the meaning in Latin and the Germanic compounds 'oak-"squirrel"' suggest that **u̯eru̯er-*, or whatever its exact shape, may have meant something more general than just 'squirrel' in PIE.

The red squirrel (*Sciurus vulgaris*) is now the most commonly encountered wild mammal across the temperate forest regions of Eurasia. Although exploited in Russia today for its fur, the numbers of squirrel bones from Neolithic archaeological sites rarely suggest anything other than chance capture; occasionally, in the Ukraine for example, the number of squirrel bones may be comparable with those of hare. The squirrel was once employed to exclude the Pontic-Caspian steppe from the homeland area because the squirrel is not resident in the steppe lands; however, it is known in the forest-steppe of the Ukraine and the southern Urals. Its distribution continues across the forest zone to China and Japan. The red squirrel is thus absent from Iran. There the Persian squirrel (*Sciurus anomalus*) is known.

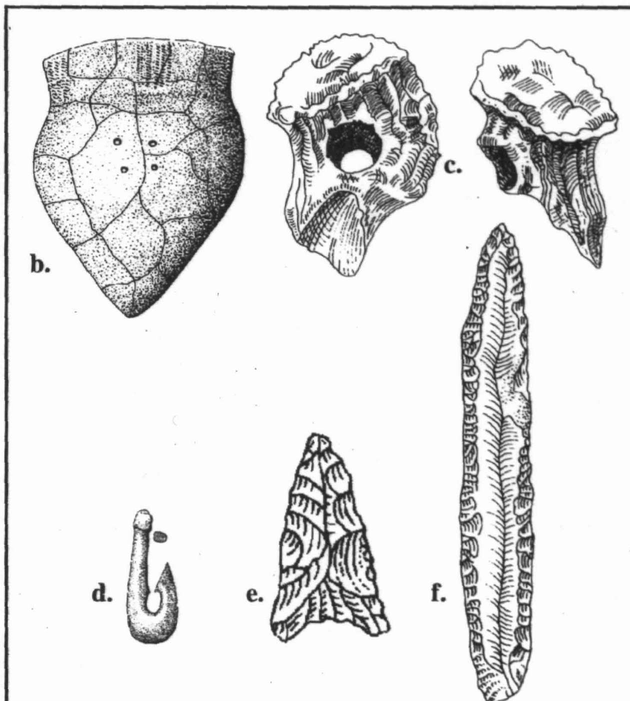
See also MAMMALS; TAIL. [D.Q.A., J.P.M.]

SREDNY STOG CULTURE

The Sredny Stog culture flourished in the middle Dnieper-lower Don area *c* 4500–3500 BC. The culture is known from about a hundred sites, primarily situated along the river banks of the Ukraine and southern Russia. Settlement remains suggest small social groups who built both sub-surface and surface dwellings. The economy included domestic cattle, sheep/goat, pig and dog and wild animals, predominantly red deer, roe deer, wild boar, elk, otter, wolf, fox, beaver and wild ass. There is also considerable evidence for fishing. The abundance of horse remains on some Sredny Stog sites along with objects which have been interpreted as cheek-pieces has given it special prominence with regard to the origin of horse domestication, widely seen as one of the more diagnostic markers of the early Indo-Europeans. The technology includes pointed-



Sredny Stog a. Distribution of the Sredny Stog culture.



Sredny Stog b. Pointed based vessel; c. Antler hammer-ax; d. Fishhook; e. Flint arrowhead; f. Flint knife.

based vessels with shell temper, large flint knives, and antler tools that have been variously interpreted as mattocks, hammers or "battle axes". Some grinding stones and querns have been recovered and indicate plant processing, and small amounts of domestic plants have been recovered, i.e., emmer wheat (*Triticum dicoccon*), barley (*Hordeum vulgare*), millet (*Panicum miliaceum*) and the pea (*Pisum sativum*). Burials are in small cemeteries, graves sometimes arranged in small groups or, occasionally, with several burials in the same pit. The deceased are in the supine position with their legs flexed and accompanied by ocher and occasionally grave goods. A recent review of the various sites attributed to the Sredny Stog culture by Yuri Rassamakin has led to the suggestion that both the chronological and regional distinctions are so great among various sites attributed to the Sredny Stog culture that the name itself should be regarded as merely a cover term for at least four distinct local archaeological cultures (i.e., the Skelanska, Stogovska, Kvitanska, and Dereivka cultures).

The Sredny Stog culture was in direct contact with the settled agriculturalists of the Tripolye culture to its west. In terms of material culture, economy and burial rite, the Sredny Stog culture is widely regarded to be related to the contemporaneous Khvalynsk culture of the middle Volga and to have played an important part in the formation of the Yamna culture. According to the "Kurgan solution" to the homeland problem, an expansion of the Sredny Stog population provided one of the earliest waves of Indo-European speakers into southeast Europe.

See also DEREIVKA; HORSE; KHVALYNSK CULTURE; KURGAN TRADITION; YAMNA CULTURE. [J.P.M.]

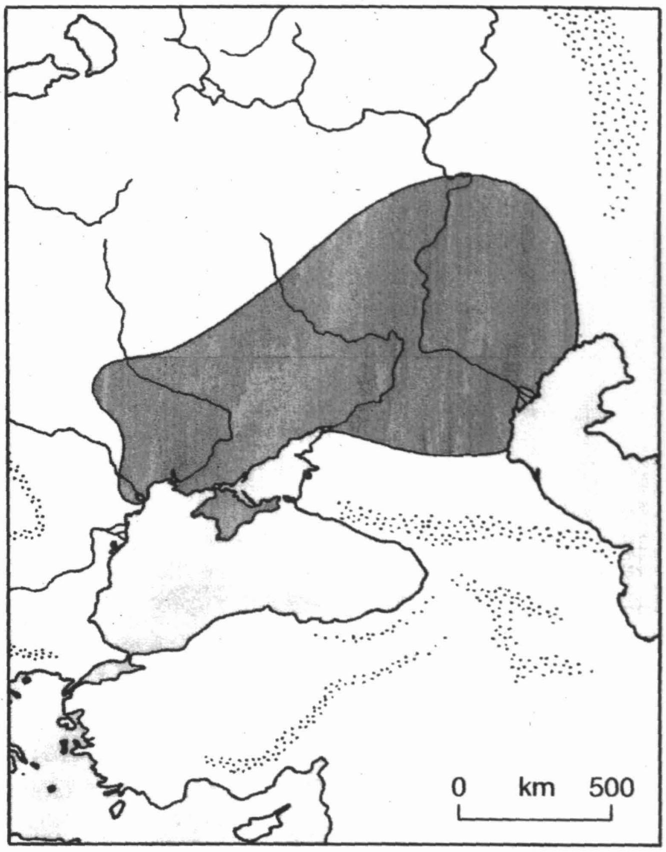
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SRUBNA CULTURE

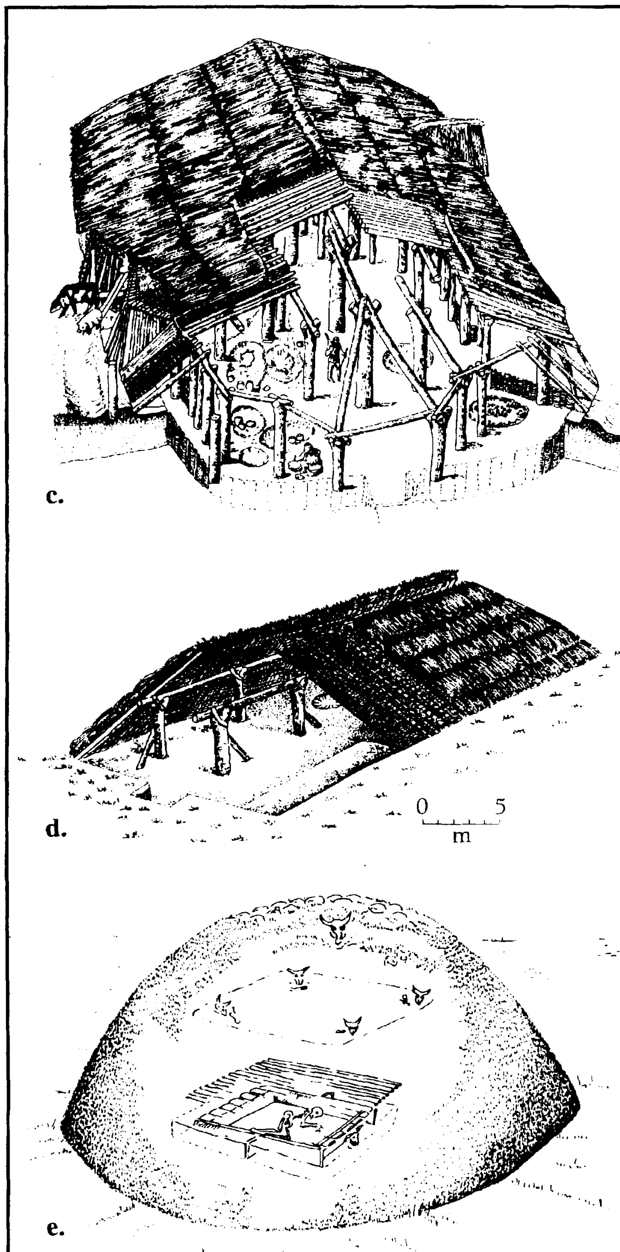
The Srubna culture is the middle Bronze Age (sixteenth–twelfth centuries BC) culture of the steppe and forest-steppe region north of the Black Sea and Caspian Sea. The Srubna culture, which takes its name from the use of timber constructions within the burial pit (Rus *srub* 'timber framework'), was the successor to the earlier Yamna, Catacomb and Poltavka cultures and is co-ordinate, if not closely related to the Andronovo culture east of the Caspian. Settlements consisted of semi-subterranean one and two-roomed houses. More obvious are its cemeteries consisting of five to ten kurgans. Burials included ritual hearths, and the skulls and forelegs of animals; in addition to timber structures, stone cists were occasionally



Srubna a. Distribution of the Srubna culture.



Srubna b. Srubna village of Usovo Ozero.



Srubna c. House reconstruction; d. Hut reconstruction; e. Srubna burial including animal sacrifice.

employed. The presence of grinding stones, bronze sickles and not only domestic cattle and sheep but also the pig indicates mixed agricultural-stockbreeding settlements. Historical testimony indicates that the territory of the Srubna culture was later occupied by Kimmerians and Scythians. For this reason, and its links with the Andronovo culture, the Srubna culture has been seen as the archaeological correlate of those Iranian dialects that first spread through the north Pontic region. The culture has also been regarded by some as the staging area from whence Iranians migrated across the Caucasus into northwest Iran. The origins of the Srubna culture are very much disputed with at least three hypotheses: local evolution over the entire region north of the Black Sea; restricted origin in the Volga region and expansion westwards; and origin in west Siberia, related to the Andronovo culture, followed by a migration into Europe.

See also Andronovo Culture; Catacomb Culture; Poltavka Culture; Yamna Culture. [J.P.M.]

STAFF *see* POST

STAKE *see* POST

STALK

***k̑ólh$_x$ōm** (gen. ***k̑l̥h$_x$mós**) 'stalk, stem, straw'. [*IEW* 612 (**k̑olǝmo-s*); Wat 3 (**kolǝm-*)]. Lat *culmus* 'stalk, stem, straw', ON *halmr* 'stalk, stem, straw', OE *healm* 'stalk, stem, straw', OHG *halm* 'stalk, stem, straw', OPrus *salme* 'stalk, stem, straw', Latv *salms* 'stalk, stem, straw', OCS *slama* 'stalk, stem, straw', Rus *solóma* 'stalk, stem, straw', Grk *κάλαμος* 'reed', TochA *kulmäṃts-* 'reed, rush'. Widespread and reflecting an ancient morphological class. Clearly PIE in date.

***kaulós** 'stalk'. [*IEW* 537 (**kau-l-*); Wat 27 (**kaul-*)]. MIr *cūaille* (< **kaulīnio-*) 'post', Lat *caulis* 'stalk', OPrus *caulan* 'bone', *kaules* 'thorn', Lith *káulas* 'bone', Latv *kaũls* 'bone' (the Baltic accent is secondary), Grk *καυλός* 'stalk'. A word of the west and center of the IE world. Younger, in appearance at least, than the previous word. From **kul-* 'hollow'.

See also Plants; Vegetables. [D.Q.A.]

STAMMER

***balba-** ~ ***balbal-** ~ ***barbar-** '± stammer, speak in a foreign way'. [*IEW* 91–92 (**balbal-*); Wat 4 (**baba-*)]. Lat *balbus* 'a stammer', *balbūtiō* 'stammer', ME *bab(e)len* 'babble' (> NE *babble*), Lith *blebénti* 'stammer', *balbãsyti* 'babble', Rus *bolobólitĭ* 'chatter', Czech *beblati* 'stammer', Grk *βάρβαρος* 'non-Greek speaker', OInd *barbara-* 'stammerer, non-Indic speaker', *balbalā-karóti* 'stammers'. Cf. Grk *βαμβαίνω* 'stammer'. Obviously an onomatopoeic formation, but one likely to be old in the IE tradition even if continuously remade. The agreement of Greek and Old Indic in the use of this formation for a speaker of a foreign language is significant.

See also Babble; Murmur; Speak. [D.Q.A.]

STAND

***(s)teh$_2$-** 'stand (up)'. [*IEW* 1004–1010 (**stā-* ~ **stǝ-*); Wat 64–65 (**stā-*); GI 49 (**st^h(a)H-*); Buck 12.15]. Descendants of a present **stísteh$_2$ti* are seen in OIr *-sissedar* 'stands', Lat *sistō* 'stand up', Grk *ἵστημι* 'stand', Av *hištaiti* 'stands', OInd *tíṣṭhati* 'stands'. Nasal presents, possibly as old as late PIE, are seen in Lat *prae-stināre* 'establish a price, sell', OPrus *postān-* 'become', OCS *stanǫ* 'take one's place', Alb *shtoj* 'augment, increase', Grk (Cretan) *στανύω* 'place', Arm *stanam* 'arise; acquire', Av *fra-stanva-* 'come forward'. A late PIE dialectal stative **staē-* is to be seen in Lat *stō* 'stand', OCS *stojǫ* 'stand' and probably OHG *stēn* ~ *stān* 'stand'. Other presents are represented by ON *standa* 'stand', OE *standan*

'stand' (> NE *stand*), OHG *stantan* 'stand', Goth *standan* 'stand', Lith *stóju* 'step', OCS *stati* 'take one's stand', TochB *ste* (< **st*h_2*ó*) 'is' (pl. *stare* 'are'), *tāka-* 'will be'. Hit *tiyezzi* 'steps' and *tittanu* 'set up' are sometimes put here but are more likely to be from PIE **dheh*$_1$- 'put'. Practically universal in PIE, with numerous enlargements and derivatives, and certainly ancient.

***stembh-** 'make stand, prop up'. [*IEW* 1012–1013 (**steb(h)-*)]. Lith *stem̃bti* 'produce a stalk (of plants)', Grk ἀστεμφής 'imperturbable, firm', Av *stəmbana-* 'support', OInd *stabhnā́ti* ~ *stabhnóti* ~ *stámbhate* 'prop, support; hinder, restrain', *stámbha-* 'post', TochAB *stäm-* 'stand', TochB *ś(c)änm-* (< *ścäm-n-*) 'bind [something] (up/together); tie [something] into a bundle; bind [something] on; establish; proclaim; produce [of fruit]'. At least a word of the center and east of the IE world. Related to **steh*$_2$- 'stand'.

See also Stiff. [A.D.V.]

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STAR

***$h_2$stḗr, -(e)r-** 'star'. [*IEW* 1027–1028 (**stēr-*); Wat 66 (**ster-*); GI 591–592 (*Hast*^{h}*er-*); Buck 1.54]. MIr *ser* 'star', Wels (collective) *sêr*, (singulative) *seren* 'star', Bret *ster(enn)* 'star', Lat *stēlla* (< **stēr(o)lā*, **stēl-nā*?) 'star', ON *stjarna* (fem.) 'star', OE *steorra* (masc.) 'star' (> NE *star*), OHG *sterno* 'star', Goth (fem.) *stairnō* (< **stern-ōn*) 'star', Grk (masc.) ἀστήρ 'star', Arm *astł* 'star', Hit *hasterz(a)* (< **$h_2$stēr-s*) 'star', Av (acc.) *stārəm* 'star', OInd (pl.) *tā́raḥ* 'stars' (inst.) *stṛ́bhiḥ*, TochA (pl.) *śreñ* 'stars', TochB (fem.) *ściriye* 'star'. The initial **h_2s-* is now certain which makes the commonly accepted OInd *tā́raḥ* 'stars' difficult. Grk τείρεα = τέρεα 'signs, portents' has nothing to do with the word for 'star' while Grk ἀστεροπή 'lightning' is of non-IE origin. The initial **h_2-* is decisive in establishing further connections to which a derivation from the root **$h_2$eh$_x$-s-* 'burn' fits perfectly for what is obviously the PIE word for 'star'.

This word has long been cited by proponents of IE-Semitic (or Sumerian) relations and attempts to locate the IE homeland in the vicinity of the Near Eastern cultures. The similarity between the IE form and the Semitic **ʿaṯtar* ~ **aθtar* 'goddess (Ištar) > star (actually Venus)' has been commented upon many times as a diacritic linking the earliest Indo-European speakers with the Near East where Semitic is generally regarded as the donor language. Igor Diakonov has criticized the comparison as the underlying meaning of the word in Semitic concerned a specific deity who was then identified with a specific celestial object (when Akkadian Eštar became identified with the Sumerian Inana who was associated with Venus) and it never meant 'star' in general. More importantly, if PIE **$h_2$stḗr* 'star' < **$h_2$eh$_x$-s-* 'burn', there is no reason to seek a Semitic origin for this word.

See also Burn. [R.S.P.B.; D.Q.A., J.P.M.]

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STARLING

***storos** 'starling'. [*IEW* 1036 (**storos* ~ **stornos*); Wat 67 (**storo-*)]. Lat *sturnus* 'starling', ON *stari* 'starling', OE *stær* 'starling' (> NE *star-ling*), OHG *star* 'starling', OPrus *starnite* 'gull'. At best a late "westernism" in IE. Other stocks derive their terms from different roots, e.g., MIr *truit* 'starling' from the root that generally means 'thrush' or Grk (Hesychius) σπαράσιον 'starling' (and by metathesis ψάρ 'starling') from the polyvalent root that also provides 'sparrow' and other birds. Armenian has *tarmahaw*, literally 'flocking bird'.

The starling differs from the other black birds such as the crow and raven particularly in behavior for it is less heavy-footed, more active, and raises more young. The bird is as ubiquitous as the sparrow.

See also Birds. [J.A.C.G.]

STEAL

***(s)teh$_4$-** 'steal, bring secretly, conceal' (pres. ***teh$_4$i̯-e/o-**). [*IEW* 1010 (**(s)tāi-*); GI 651 (**(s)t*^{h}*aHi-*); Buck 11.57]. OCS *tajǫ* 'hide', Hit *tāyezzi* 'steals'. Cf. the widespread derivatives: (1) **(s)téh$_4$i̯u-* 'secret'/**(s)teh$_4$i̯ús* 'thief' in OCS *taj* 'secret', Grk τηϋσίη ὁδός 'vain road', Av *tāyu-* 'thief', OInd *(s)tāyú-* 'thief', TochB *ene-stai* 'in secret'; (2) **(s)teh$_4$tis* 'thief' in OIr *tāid* 'thief', OCS *tatĭ* 'thief', Grk τητάομαι 'deprive, rob'. Widespread and old in IE.

***ster-** 'steal'. [*IEW* 1028 (**ster-*); Wat 66 (**ster-*); Buck 11.56]. MIr *serb* (< **steru̯os*) 'thief', Grk στερέω 'deprive, rob', στέρομαι 'be deprived'; cf. ON *stela* 'steal', OE *stelan* 'steal' (> NE *steal*), OHG *stelan* 'steal', Goth *stilan* 'steal' which may have Gmc **-l-* rather than **-r-* by crossing with **kel-* 'deceive'. Even without Germanic the existence of this word in both Greek and Celtic would seem to assure its PIE status, at least in the west and center of the IE world.

***mus-** 'steal' (pres. ***musnéh$_a$ti**). [*IEW* 743 (**meu-s-*); Buck 11.46]. OHG (*Lex Salica*) *chrēo-mōsido* 'grave-robbery', OInd *muṣṇā́ti* ~ *móṣati* 'steals', TochB *mus-* (pres. *musnā-*) 'steal'. The more original meaning is probably to be seen in TochAB *mus-* 'lift, move (aside)', from which the meaning 'steal' had developed even in late PIE. Widespread and old in IE.

***teubh-** 'steal'. ON *þjófr* 'thief', *þýfi* 'theft', OE *þēof* 'thief' (> NE *thief*), OE *þiefe-feoh* 'stolen goods' (< *'theft-possession'), OHG *diob* 'thief', *diuba* 'theft', Goth *þiubs* 'thief', *þiubi* 'theft', *þiubjo* 'secretly', TochB *cowai tärk-* 'steal' (lit. 'commit a theft'). Although limited to Germanic and

Tocharian, it would appear that this word is at least of late PIE status.

Words for 'steal' in PIE are characterized by their connections with secrecy and stealth—the characteristics that distinguish stealing in the PIE legal system from (open) robbery.

See also TOUCH. [D.Q.A.]

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STELAE

During the Copper Age (*c* 4000–2500 BC) various regions of Europe carved and erected stone stelae. These are primarily concentrated in southern France, the Alpine regions of Italy and in the southern portion of the Black Sea steppe and north Caucasus. During the Bronze Age stelae were also erected in Asia, particularly in the Minusinsk basin. The European stelae vary greatly in the degree to which they are representational of the human form, which gender (if any) they depict, and in terms of the cultural content of what is engraved upon them, e.g., clothes, weapons, animals, geometric patterns. Many of the west Mediterranean stelae play little or no role in discussions of the early Indo-Europeans as they are assumed to depict female deities which cannot be convincingly accommodated by our evidence for Indo-European religion. Some of those found in northern Italy and all of those recorded in the Black Sea area, however, have been regarded as part of the overall evidence of the early Indo-Europeans.

The Italian stelae arise out of a well known tradition of engraving images on stone that is found in the Alpine region, e.g., the Val Camonica rock art with its numerous images from the Neolithic through the historic period. Although the stelae are normally chance finds, there is some evidence that their original context may have involved some form of sanctuary where they were erected in a circle.

The Ukrainian stelae are divided into two broad classes. The great majority of the some three-hundred stelae known so far are simple stelae which carry very little detail other than a vaguely anthropomorphic shape with a slight projection where the head should be. These occasionally bear some ornament, e.g., belts, "foot-prints", and are often found as covering slabs in Yamna burials. It is suspected that this roofing of burial pits was not their original function but that they were expropriated for use in burials by the Yamna people because of their slab-like shape and also because they may have retained sacred connotations. Their original context is only hinted at by a few sites which have revealed stelae arranged in a large circle which suggests that they originally served in some form of sanctuary. Dmitry Telegin has suggested that these stelae were originally carved and erected by the Kemi Oba (and Lower Mikhaylovka) culture of the southern Ukraine and Crimea and then reused by the tribes of the Yamna culture.

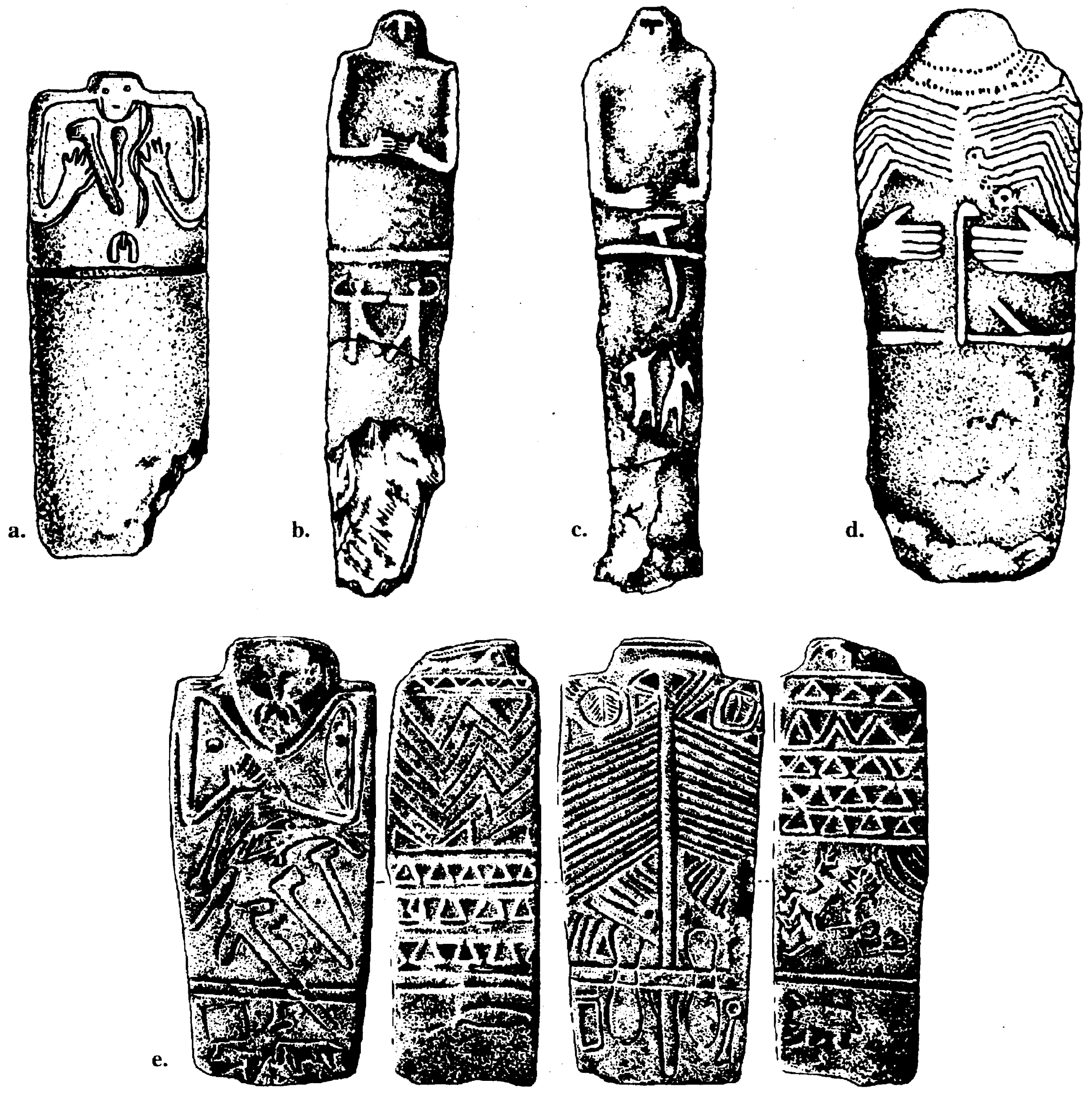
The second class of Ukrainian stelae are the statue menhirs which only comprise a little more than twenty examples. These may depict various features of the human anatomy (in order of frequency: eyes, nose, arms, hands, mouth, shoulder-blade, breasts, ribs, spine and genitalia) and also weapons, animals, and other scenes. These are generally chance finds although several have been recovered from a mortuary (Yamna) context.

The reason for assigning an IE identity to the makers of these stelae are several. In some instances, the form or ornament of the stelae are regarded as expressions of IE religious or social concepts. In addition, the discovery of a widespread tradition of stelae in the north Pontic region, which itself is often presumed to have been occupied by the earliest Indo-Europeans, naturally invites the application of an IE interpretation to the stelae.

Indo-European Motifs

Discussions of Indo-European motifs on the Copper Age stelae are generally prompted by two lines of interpretation: Indo-European cosmogonic myths and the specific character of various Indo-European deities who are believed to be depicted on the stelae. The cosmogonic material concerns in particular an origin myth that derives the creation of the material and social world through the dissection of a primordial giant, or, to give it its Vedic name, the *Puruṣa*. Such an interpretation has been applied to both the north Italian and Pontic stelae by several writers. M. Piantelli, for example, has argued that Puruṣa-stelae can be seen in those that have a solar disc in the top of the stela where the sun is regarded as the allomorph of the eyes. The multiple arms that appear on some primordial giants is believed to be reflected in the engraving of multiple weapons on the stelae (in the Italian case these are frequently daggers or halberds; in the case of the Ukrainian stelae the "multiplicity" of the divisions of the giant are supposedly indicated by the use of several stelae to cover graves of the Yamna culture). A tripartite division of the world has also been argued for the Italian stelae with E. Anati's suggestion that they are carved in three registers which correspond to the three divisions of Indo-European cosmology: the upper register carries a solar disc or face which should be equated with the heavens, the middle register finds weapons or pendants (symbols of authority) which are believed to reflect the earth and world of human activities; and the lower part of the register, when not simply inserted into the ground, may show wheeled vehicles, snakes, plows, or other symbols which have been assumed to reflect the underworld of the Indo-Europeans. The fact that this interpretive key can be applied only to some stelae and that the various motifs allegedly deciphered are so vague (or hardly specific enough to be regarded as strictly Indo-European) renders the cosmogonic interpretations highly speculative.

It has also been suggested that the stelae can be interpreted



Stelae a. Natalevka stela (1.6 m), Ukraine, with ax, mace and bow; b. Kazanki (1.45 m), Ukraine; c. Akchokrak, Ukraine, with ax depicted in belt; d. Novocherkask (0.98 m), Ukraine, with shepherd's "crook"; e. Kernosovka (1.20 m), Ukraine. The front displays a moustache, phallas, and nipples and depicts weapons, animals (dog?, horse?). The rear of the stela displays the "foot-print" motif and a belt.

as Indo-European deities, specifically solar deities, thunder- or war-gods, etc. Such interpretations are also extremely problematic since there is little or no evidence that there are recurring sets of motifs that are exclusively found on some stelae rather than others. Other than anatomical features, the statue menhirs of the Ukraine depict necklaces or pendants, belts, axes, (shepherd's) crooks, bows, daggers, maces, spears, animals (horses and or dogs) and what are taken to be "foot-prints" or, perhaps, representations of shoes or sandals. These do not seem to occur in combinations that reflect a set of motifs ascribable to a particular deity to the exclusion of any other. If one interprets the statue menhirs as deities but cannot distinguish one from another (or must assume that each reflects a different deity) then this interpretation must remain entirely speculative without the additional support of specific patterning.



Stelae f. Stela from Lagundo, Italy. The depiction of multiple weapons (axes and daggers) and the wheeled vehicle have been employed by supporters of the "Kurgan theory" to support the spread of warlike Indo-European motifs into previously non-Indo-European regions of Europe.

One possible interpretation of the Ukrainian statue-menhirs is that they may reflect a royal figure. A recurrent motif observed in both Indic and Irish tradition associates the inauguration of a king with the presentation of three talismans: a garment (indicating the priest class), weapons (the warrior class) and shoes or sandals (the feet as symbols of fertility and the third Dumezilian function). As both weapons and the "shoe" motif are found together on six of the stelae, this may provide at least the beginning of an interpretative basis. On two occasions these combinations are augmented by the portrayal of a crook which might then fulfil the expectations demanded by the literary evidence (assuming one can replace the vestment of the priest with a shepherd's crook) but again the recurrence of such a pattern is not so widespread to render it particularly persuasive.

In general, while the stelae have been regarded as representative of Indo-European ideology, there is no clear "system" that supports such conclusions. Most interpretations derive from individual motifs, e.g., the ax or spear of a putative thunder-god, and as the iconography of the Near East emphasizes, such deities and symbols are by no means exclusively Indo-European.

See also COMPARATIVE MYTHOLOGY; COSMOGONY; KEMI-OBA CULTURE; YAMNA CULTURE. [J.P.M.]

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STEP

ĝhengh- 'step, walk'. [*IEW* 438–439 (**ĝhengh-*); Wat 22 (**ghengh-*); Buck 10.45]. OIr *cingid* (< **k̂engh-* by dissimilation from **ĝhengh-*) 'steps', Wels *rhygyngu* 'amble', ON *ganga* 'go', OE *gangan* 'go', OHG *gangan* 'go', Goth *gaggan* 'go', Lith *žengiù* 'stride, step', Av *zanga-* 'ankle', OInd *jáṃhas-* 'step, wingbeat'. Widespread and old in IE. The word for 'buttocks' is related.

ghredh- 'step, go'. [*IEW* 456–457 (**ghredh-*); Wat 23 (**ghredh-*); Buck 10.45]. OIr *in-greinn-* 'pursue', Lat *gradior* 'stride', *gradus* 'step', Goth *griþs* 'step', Lith *gridyju* 'go, wander about', OCS *grędǫ* 'go', Rus *grjadú* 'go', Av *aiwi-gərəδ-* 'begin'. Reasonably widespread, certainly old in IE.

spleiĝh- 'step, go'. [*IEW* 1000 (**(s)pleiĝh-*)]. Grk *πλίσσομαι* 'stride out', *πλιχάς* 'space between the thighs', OInd *pléhate* 'goes'. Cf. OIr *slīasait* (< **spleĝh-s-ontī*) 'thigh, shank' and possibly OIr *lingid* (if < **pli-n-ĝh-*) 'jumps'. Its attestations are widely spread; probably a word of PIE status.

See also BUTTOCKS; GO. [D.Q.A.]

STEP-FATHER *see* KINSMAN, UNCLE

STEP-MOTHER *see* AUNT, KINSMAN

STIFF

ĝhers- 'stiffen (of hair), bristle'. [*IEW* 445-446 (**ĝhers-*); Wat 22 (**ghers-*); BK 233 (**gur-/*gor-*)]. OE *gorst* 'gorse', Lat *horreō* 'bristle', *horridus* 'rough, shaggy, bristly', Av *zaršayamna-* 'feathers upright', OInd *hárṣati* ~ *hárṣate* 'bristles, becomes erect or rigid, becomes sexually excited', *harṣa-* 'bristling, erection (especially of hair in the thrill of excitement)'.Certainly related is **ĝher-* 'hedgehog' and less certainly so **ĝhor-* 'young pig'. The distribution would seem to guarantee PIE status for this word.

(s)terh₁- 'stiff'. [*IEW* 1022 (**(s)ter-*); Wat 66 (**ster-*)]. ON *starr* 'stiff', OE *starian* 'look at, stare' (> NE *stare*), OHG *starēn* 'stare', OPrus *stūrnawiskan* 'sternness', Lith *starinù* 'tighten, stretch, make stiff', OCS *stradā* 'hard work', Grk *στερεός* 'stiff, firm'; possibly also Wels *trin* 'battle', TochA *tsär* 'hard, rough' and TochB *ścire* 'hard, rough'. While best attested in the northwest, the secure Greek and potential Tocharian connections support PIE status.

sth₂ei- 'become hard, fixed'. [*IEW* 1010–1011 (**stāi-*)]. Lat *stīria* 'icicle', Fris *stīr* 'stiff', Lith *stóras* 'stiff', OInd *styā́yate* 'becomes fixed, coagulated, hardens', *stīyā-* 'stagnant water', *stīmá-* 'heavy', *stimita-* 'unmoving, fixed, silent', TochB *stināsk-* 'be silent'. An extension of **steh₂-* 'stand'. Sufficiently widespread to be assured of PIE status.

st(h₂)eug- 'stiff'. [*IEW* 1033–1034 (**(s)teu-g-*)]. Lith *stúkti* 'stand tall', Rus *stúgnutĭ* 'to freeze' (< *'become stiff'?), TochB *staukk-* 'swell, bloat'. Probably another extension of **steh₂-* 'stand'. A word of the center and east of the IE world.

See also FIRM; STAND. [J.C.S., D.Q.A.]

STIR

menth₂- 'stir' (pres. ***mn̥tneh₂-*** ~ ***mn̥tnh₂i̯e/o-***). [*IEW* 732 (**menth-*); GI 49 (**mont^h-H-*)]. ON *mǫndull* 'handle on a pestle', Lith *mę̃sti* 'stir, agitate', OCS *męsti* 'disturb, molest', *motati sę* 'be agitated', Rus *motátĭ* 'wind, shake; vanish', OInd *mánthati* ~ *mathnā́ti* ~ *mathā́yati* 'stirs, whirls; churns; hurts, destroys', TochAB *mänt-* 'remove (utterly) from its place, destroy; pour out; disturb, meddle with; fall into misfortune, be irritated, feel malice' (TochB pres. *mäntänā-/mäntäññ-*). The exact double morphological equation in OInd *mathnā-/mathā́yati* and Toch *mäntänā-/mäntäññ-* is remarkable. The first pair reflects PIE **mn̥tneh₂-* while the second reflects PIE **mn̥tn̥h₂i̯e/o-*. Widespread and old in IE.

i̯euĝ- 'stir up, incite; be unquiet'. [*IEW* 512 (**i̯euĝ-*)]. MHG *jöuchen* ~ *jouchen* 'drive, hunt', Goth *jiukan* 'fight, struggle', Arm *yuzem* 'incites' (< Iranian), Av *yaozaiti* 'stirs oneself up', TochAB *yuk-* 'overcome, conquer; surpass'. The geographical distribution would seem to assure PIE status.

See also MIX; SET IN MOTION; SHAKE. [D.Q.A.]

STONE

h₄éḱmōn 'stone'. [*IEW* 19 (**aḱ-men-*); Wat 1 (**ak-men-*); GI 575; Buck 1.44]. Lith *akmuõ* 'stone', OCS *kamy* 'stone', Grk *ἄκμων* 'anvil', Hit *aku-* 'stone', Av *asman-* 'stone, heaven', OPers *asman-* 'heaven', OInd *áśman-* 'stone' (a meaning 'heaven' is disputed). Except for the Hittite form, the others point to **h₄éḱmōn*. In Baltic and Slavic **ḱ* was regularly depalatalized before a resonant; Lith *ašmuõ* 'sharpness' is a recent formation with a different meaning. The Slavic forms OCS *kamy* 'stone' and SC *kamen* 'stone' are isolated and point to **keh₄mōn* which would seem to represent a metathesis of **h₄ek-* which would also explain the non-palatal velar. Attempts to connect Germanic words for 'hammer' here (e.g., OE *hamor*) would require **kh̥₄m-* but an *r/n*-suffix preceded by the **m* of **-men-* is very improbable and the connection is semantically unlikely. These theories should be abandoned as well as those which connect Goth *himins* 'heavens', etc., with this word.

A perennial problem has been the association of this word with the meaning 'heaven' as well as 'stone'. Even if we may exclude on formal grounds the Germanic terms that indicate 'hammer, sky', e.g., Goth *himins* 'sky, heaven', there is still evidence relating to 'sky' in Avestan and possibly Old Indic where the range of meanings for *aśman-* range from 'rock, cliff; stone tool' allegedly to 'sky'. Other celestial connotations are taken from a Greek gloss of Eustathius where *ἄκμων* is defined as *ὁ οὐρανός* 'the sky'. It was once believed that this association could be best explained by presuming a PIE concept of the heavens as a stone vault or, more recently in GI, that the PIE-speakers envisaged mountains and cliffs (of stone) ascending into the heavens. On the other hand, J. P. Maher has argued that the connecting link between the concept of stone and sky was the polished stone ax and the widely attested folk belief that such axes were "thunder stones" that had fallen from the sky, cf. Lith *Perkū́no akmuõ* 'Perkūnas' thunder-bolt' or the OInd *áśman* which may also refer to Indra's 'thunder-bolt'. But given the fact that PIE technology also included the manufacture of polished stone axes, it would seem highly unlikely that the early Indo-Europeans were unaware of their true origins.

péru 'rock'. [Del 188]. Hit *pēru* (neut.) *peru(na)-* (com.) 'rock', *perunant-* 'rocky', Av *paurvatā* 'mountain', OInd *párvata-* (< **peru̯-n̥t-o-*) 'rocky; rock, mountain'. If the connection is correct, as it seems, the word is of PIE date.

?*hₓond- ~ ****hₓn̥d-*** 'stone, rock'. [*IEW* 778 (**ond-*); GI 574 (**ont'-*)]. MIr *ond* 'stone, rock', OInd *ádri-* 'stone (especially one used in pressing soma)'. Poorly attested and uncertain.

?*lēu̯anks 'stone'. [*IEW* 683 (**lēu-*); Wat 37 (**lēu-*); Beekes 17]. OIr *lïe*, (gen. *līac*) (< **līu̯ank-*) 'stone', Alb *lerë* 'rubble, mass of stone', Myc *ra-e-ja* (*lāeiā*) 'of stone', Grk *λᾶας* 'stone'. The connection should be abandoned as the Greek word has no **u̯-* and its *ā* and the Irish *ī* cannot be reconciled. For Grk *λᾶας* a PIE origin has been claimed from **l(e)h₃s-*.

?*ḱorkeh₄- 'pebble, small stone'. [*IEW* 615 (**ḱorkā*)]. Grk *κροκάλη* 'pebble', *κρόκη*, *κρόκκαι* 'pebble(s)', OInd *śárkarā* 'pebbles, gravel; sugar' (whence NE *sugar*). The Greek form is supposed to exhibit metathesis but the suffix does not agree with the Old Indic word because of the Grk *a*. There are comparable forms in non-IE languages so this is probably a substrate word. For the Old Indic word, an origin in the

Munda languages has been suggested. Therefore, both the connection between the two words and the IE origin is unlikely.

?*pel(i)s- (gen. ****pl̥sós***) 'stone, rock'. [*IEW* 807 (**peli-s-*); Wat 49 (**pelis-*); GI 648 (**pʰel-*); BK 36 (**pl[ʰ]al-/*pl[ʰ]əl-*)]. OIr *ail* (< **pal-i-?*) 'cliff', MIr *all* (< **palso-* < **pl̥so-?*) 'cliff', ON *fjall* ~ *fell* (< **felzá-* < **pelso-*) 'cliff', OHG *felis* (< **pele/isa-* < **paliso-?*) 'cliff', Macedonian *Πέλλα* (place name, explained as 'stone'), Grk (Hesychius) *πέλλα* 'stone', Pashto *parša* 'steep slope', Kati *parši* 'cliff, mountain', Waigali *paṣū* 'rock', OInd *pāṣāṇá-*, *pāṣí-* 'stone'. If MIr *ail* represents **pali-*, the *a* of *all* cannot derive from **pl̥so-*. There is evidence for a pre-Romance **pal(l)a*. The Germanic words have **pels-* beside **pelis-* (**peles-?*) or **palis-* (**pales-?*). The Macedonian *Πέλλα* is probably a substrate word, cf. *Πέλλα/η* beside *Πελλήνη* (and probably *φελλεύς* 'stony land'). Both the European and the Indic words appear to be non-Indo-European.

See also **Ax**. [R.S.P.B.]

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STORK

****(s)ter-*** 'stork'. [*IEW* 1023 (**(s)ter-*); Wat 66 (**ster-*)]. ON *storkr* 'stork', OE *storc* 'stork' (> NE *stork*), OHG *storah* 'stork', Hit *tarlā* 'stork'. The related Arm *taṙeln* 'stork' is a loan from an Anatolian language. Witczak has suggested that the underlying Germanic form is **sturkaz* which should derive from PIE **sr̥ĝós* 'stork', cf. Grk *πελαργός* 'stork' (*πελ-* 'white' + **ἀργός* < **sr̥ĝos*), OInd *sr̥jayá-* 'wading bird', thus perhaps of PIE status. In other IE languages the term for 'stork' is from random sources, e.g., Lat *cicōnia* 'stork' (< **kan-* 'sing'). Indic has no preferred term, and indeed the common white stork comes to India only during the winter months. When these large birds have a common Indic name, it is usually in reference to their physical features, e.g., 'red-bill' and 'white-neck'.

The white stork (*Ciconia ciconia*) is a noticeable bird and one fondly thought of. It was frequently confused by the ancients with the swan and the heron, also large white birds. In addition to the rather common white stork, there is a black stork (*Ciconia ciconia nigra*) which dwells in rushes and is quite secretive.

See also **Birds**. [J.A.C.G.]

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STRENGTH

****h₂énr̥*** '(manly) strength, vitality'. [*IEW* 765 (**ner-(t-)*); Wat 44 (**ner-*); GI 703 (**H̥ner-(tʰ)-*); BK 558 (**nir-/*ner-*)]. The underlying noun has survived nowhere but it has left rich derivatives: OIr *nár* 'noble, great-hearted', Lith *nóras* 'will', Hit *innarā* 'violently', *innarahh-* 'make strong', *innarawant-* 'strong, forceful; sexually potent', Luv *annara/i-* 'forceful' (Anatolian < **h₁en-h₂noró-* 'having (manly) strength within'); more particularly there is the widespread derivative **h₂nḗr* (gen. **h₂n̥rós*) 'man' in Alb *njeri* 'person', Grk *ἀνήρ* (gen. *ἀνδρός*) 'man', Phryg *αναρ* 'man', Arm *ayr* 'man, person', Luv *annar-* 'man', Av *nar-* 'man, person', Oss *næl* 'man', OInd *nár-* 'man, person'. Widespread and old in IE.

****h₂óius*** (gen. ****h₂ióus***) 'vital force, life, age of vigor'. [*IEW* 17 (**aiu̯-*); GI 702 (**ayu-*); Wat 1 (**aiw-*); BK 446 (**am/*əm-*)]. OIr *āes* 'life, age', Lat *aevus* 'lifespan, age', ON *ævi* 'life, age', *æ* (< **h₂oiu̯o-*) 'always', OE *ǣ(w)* 'law, marriage', OHG *ēwa* 'eternity, law', *ēwīn* 'eternity', *io* 'always', Goth *aiws* 'time, eternity', Grk *αἰών* 'vitality, lifespan', Av *āyū* (gen. *yaoš*) 'lifespan', OInd *áyu-* ~ *áyuṣ-* 'life, lifespan'. Cf. *δολιχαίων* 'having a long life', Av *darəg-āyu-* 'long-lasting', OInd *dīrgh-āyu-* 'long-lasting'. Widespread and old in IE.

****u̯éih₁(e)s-*** 'strength, vitality'. [*IEW* 1123–1124 (**u̯īs-*); Wat 74–75 (**wī-*); BK 508 (**wuy-/*woy-*)]. Lat *vīs* 'power', Grk *ἴς* 'power', OInd *váyas-* 'vitality, growth', *vīḍáyati* (< **u̯ih₁s-d-eie/o-*) 'makes strong'. Particularly important is the related **u̯ih₁rós* 'full of vitality, young': OIr *fer* 'man, husband', Wels *gŵr* 'man, husband', Lat *vir* '(grown) man, husband', Umb *uerio-* 'man', ON *verr* 'man, husband', OE *wer* 'man, husband' (> NE *werewolf*), OHG *wer* 'man, husband', Goth *waír* 'man', OPrus *wijrs* 'man', Lith *výras* 'man, husband', Latv *vīrs* 'man, husband', ?Alb *ri* 'young' (if < metathesized **u̯rih₁ós*), Av *vīra-* 'man', OInd *vīrá-* 'man, husband', TochA *wir* 'young'. Widespread and old in IE.

See also **Life**; **Man**; **Strong**; **Young**. [D.Q.A.]

STRETCH *see* EXTEND

STRIKE

****gʷhen-*** 'strike' (pres. ****gʷhénti***). [*IEW* 491–492 (**gᵘhen-(ə)-*); Wat 25 (**gʷhen-*); GI 644 (**gʰᵒen-*); Buck 9.21; BK 312 (**gʷan-/*gʷən-*)]. OIr *gonaid* (< **gʷhonei̯e/o-*) 'wounds, strikes', Lat *dēfendō* 'protect', ON *gunnr* 'combat', OPrus *guntwei* 'drive (cattle)', Lith *genù* 'drive cattle; hunt', *genù* 'prune (trees), trim (a hedge)', Latv *dzęnu* 'drive cattle', OCS *ženo̧* 'drive cattle', *gonjo̧* 'pursue', *žĭjo̧* 'harvest, cut', Rus *gon* 'a drive, a hunt', Grk *θείνω* 'strike', *φόνος* 'murder', (Hesychius) *ἀπέφατο* 'died' (< *'was struck down'), Arm *jnem* 'strike', *ganem* 'strike', Hit *kuēnzi* 'strikes', Av *jainti* 'strikes', OInd *hánti* 'strikes', TochB *käsk-* (< **gʷhn̥-sk̑e/o-*) 'scatter (violently)'. Sometimes accepted here are ON *bani* 'murder', OE *bana* 'murder', OHG *bano* 'murder' and ON *ben* 'wound', OE *benn* 'wound', Goth *banja* 'wound', by those who accept the notion that PIE **gʷh-* became Proto-Gmc **b-* except before **-u-* (where it became **g-*). Practically universally attested and clearly old in IE, this is the archetypal verb for 'strike' in PIE.

****u̯en-*** 'strike, wound'. [*IEW* 1108 (**u̯en-*); Wat 76

(*wen-)]. MWels *gweint* 'bored through', Wels *ymwan* 'fight, do battle', ON *und* 'a wound', OE *wund* 'a wound; wounded' (> NE *wound*), OHG *wunt* 'wounded', *wunta* 'a wound', Goth *wunds* 'wounded', Arm *vandem* 'destroy', Hit *wen-* 'copulate with', *uwanisk-* '± ravage', *wenal* '± stick, staff'. Widespread and old in IE.

***bher-** 'strike (through), split' (pres. ***bhóri̯e/o-**). [*IEW* 133–135 (**bher-*); Wat 7 (**bher-*); BK 3 (**bur-/*bor-*)]. MIr *bern* 'gap, chasm', Lat *feriō* 'strike, pound', *forō* 'bore', ON *berja* 'strike', *bora* 'bore', OE *borian* 'bore' (> NE *bore*), OHG *berjan* 'strike', *borōn* 'bore', Lith *bar(i)ù* 'revile, abuse', Latv *bãŗu* ~ *bāru* 'revile', OCS *borjǫ* 'fight, struggle', Rus *borjú* 'subdue, throw down', Grk (Hesychius) *φάρσαι* 'split', *φαρόω* 'plow', Arm *beran* 'mouth' (< *'slit'), *brem* 'dig up', hollow out, bore', NPers *burrad* 'cuts', OInd *bhṛṇā́ti* 'wounds'. Widespread and old in IE.

***pleh$_a$k/g-** 'strike, strike one's breasts in lamentation' (pres. ***pléh$_a$gmi** 'I strike', ***pléh$_a$kti** 'he/she strikes'). [*IEW* 832–833 (**plāk-* ~ **plāg-*); Wat 51 (**plāk-*)]. From **pleh$_a$g-*: ON *flōkinn* 'distraught', OE *flōcan* 'strike, clap', OHG *fluohhan* 'curse', Goth *flōkan* 'bewail', Grk *πλήσσω* 'strike', *πληγή* 'a blow'; reflecting a nasalized present **plh$_a$-n-g-*: MIr *lēn* (< **plang-smo-*) 'defeat, hurt, injury', Lat *plangō* 'strike, strike one's breast in lamentation; bewail', Grk *πλάζω* (< **plangi̯ō*) 'strike (down)'; from **pleh$_a$k-*; Lith *plàkti* 'strike', *plōkis* 'a blow', OCS *plakati sę* 'weep, be sorrowful'. Similar in phonology and identical in meaning are Lat *plectō* 'strike, punish', Lith *plíekti* 'strike'. Reasonably widespread and certainly old in IE.

***keh$_a$u-** 'strike, hew' (> 'forge' already in PIE?). [*IEW* 535 (**kău-*); Wat 27 (**kau-*); GI 619 (**k^{h}aHu-*); Buck 9.61]. ON *hǫggva* 'hew', OE *hēawan* 'hew' (> NE *hew*), OHG *houwan* 'hew' (cf. ON *hey* 'hay', OE *hīeg* 'hay' [> NE *hay*], OHG *hewe* ~ *houwe* 'hay', Goth *hawi* 'hay'), Lith *káuja* 'strike, forge', *kovà* 'battle', Latv *kaũt* 'strike, forge', OCS *kovǫ* 'forge', TochA *ko-* 'kill, strike down, destroy', TochB *kau-* 'kill, strike down, destroy', TochA *koṣt-* 'strike, kill by striking'; **keh$_a$ud-* in MIr *cuad* 'war', Lat *cūdō* 'strike, forge', TochA *kot-* 'split off, break; chop up/down; crush', TochB *kaut-* 'split off, break; chop up/down; crush'. Widespread and old in IE.

***per-** 'strike'. [*IEW* 818–819 (**per-*); Wat 50 (**per-*); Buck 9.21]. Lith *periù* 'beat with brushwood, flog', Latv *peŗu* 'beat with brushwood, flog', OCS *perǫ* 'strike; wash (by beating) clothes', *pĭrjǫ* 'contend', Rus *pru* 'press, oppress', Arm *hari* 'struck'. With enlargements we have Alb *pres* (< **preti̯e/o-*) 'cut down, cut off, split', Av *pərət-* 'battle, strife', OInd *pṛt-* 'battle, strife'. Widespread and old in IE.

***kreu(-s)-** 'strike'. [*IEW* 622–623 (**kreu-*); Wat 32–33 (**kreuə-*); Buck 9.21]. From **kreu-*: OE *hrēowan* 'grieve, distress, afflict' (> NE *rue*), OHG *(h)rieuwa* 'grieve, distress, afflict', Grk *κροαίνω* (< **krou̯n̥i̯e/o-*) 'stamp, strike with the hoof' (of a horse), TochAB *kärn-* (< **kru-neh$_a$-*) '± strike, afflict'; from **kreus-*: ON *hrosti* 'mashed malt', Lith *krušù* ~ *kriaušaũ* 'smash, crash; grind', *krušà* 'hail', Latv *krusa* 'hail', OCS *su-krušiti* 'shatter', Grk *κρούω* (< **krousi̯e/o-*) 'strike (together)', strike a stringed instrument with a plectrum, knock (at the door)'. Widespread and old in IE.

***pi̯ek-** 'strike'. [cf. *IEW* 797 (**pek̑-*); Wat 48 (**pek-*); Buck 20.11]. OE *feohtan* 'fight' (> NE *fight*), OHG *fehtan* 'fight', Alb *për-pjek* 'strike', TochB *pyāk-* 'strike (downwards), batter; beat (of a drum); penetrate (as a result of a downward blow)'. Distribution suggests PIE status.

***temh$_x$-** 'be struck, be exhausted'. [*IEW* 1063 (**tem-*); BK 147 (**t^y[^{h}]um-/*t^y[^{h}]om-*)]. MIr *tām* (< **tōmh$_x$u-*) 'sickness, death', *tāmaid* 'dies', Lat *tēmētum* 'any intoxicating drink', *tēmulentus* 'drunken, tipsy', NHG *damisch* ~ *dämlich* 'foolish, silly', OCS *tomiti* 'torture, harass, tire', OInd *tā́myati* 'gasps for breath; is faint, stunned, exhausted', *tamáyati* 'robs of breath'. Widespread and old in IE.

***g^{w}el-** 'strike, stab'. [*IEW* 470–471 (**g^{u}el-*); Wat 24 (**g^{w}el-*); BK 359 (**q^{w}al-/*q^{w}əl-*)]. Wels *ballu* 'die', OE *cwelan* 'die', *cwellan* 'kill' (> NE *quell* and *kill*), *cwield* ~ *cwild* 'destruction, death', OPrus *gallan* 'death', Lith *gélti* 'sting, ache', *gėlà* 'torture', Arm *kełem* 'torture'. At least a word of the west and center of the IE world. See also the derivative **g^{w}elōn* 'insect's stinger'.

***bheud-** 'strike, beat' (pres. ***bhóudei**). [*IEW* 112 (**bhău-*); Wat 6 (**bhau-*); Buck 9.21]. OIr *bibdu* (< **bhe-bhud-u̯ōt-s*) 'guilty; enemy', Lat *fūstis* 'cane, cudgel', ON *bauta* 'beat', OE *bēatan* 'beat' (> NE *beat*), OHG *buzzan* 'beat'. At least a word of the northwest of the IE world.

***bheih$_a$-** 'strike' (pres. ***bhinéh$_a$ti** [in the west of the IE world] ~ ***bhih$_a$e/o-** [in the center and east]). [*IEW* 117 (**bhei(ə)-*); Wat 6 (**bhei-*); Buck 9.21]. OIr *benaid* 'strikes', Lat *perfinō* 'break through, shatter', OCS *bijǫ* 'strike', Av *byente* 'they struggle, strike'. The geographical spread guarantees PIE status.

***kelh$_1$-** 'strike'. [*IEW* 545 (**kel-*); Wat 28 (**kel-*); BK 354 (**q[^{h}]al-/*q[^{h}]əl-*)]. Lat *calamitās* 'loss, injury, damage, misfortune', *per-cellō* 'beat down, throw down', OPrus *kalo-peilis* 'chopping-knife, cleaver', Lith *kalù* 'strike, forge', Latv *kaļu* 'strike, forge', OCS *koljǫ* 'stab, slaughter', Rus *kolótʹ* 'stab, slaughter, hack, split', Grk *κελεός* (< **kelh$_1$u̯ós*) 'green woodpecker'. A word at least of the west and center of the IE world.

***bhlih$_x$ĝ-** 'strike'. [*IEW* 160–161 (**bhlīĝ-*); Wat 9 (**bhlīg-*)]. Lat *flīgō* 'strike', Latv *blaizīt* 'crush, strike', Grk *φλίβω* (< **bhlih$_x$ĝ-u̯-*) 'press'. A word of the west and center of the IE world.

***bhlaĝ-** 'strike'. [*IEW* 154 (**bhlăĝ-*); Wat 8-9 (**bhlag-*)]. Lat *flagrum* 'whip', *flāgitō* 'demand importantly', ON *blaka* 'strike one side and the other', *blekkja* 'strike', Lith *blaškaũ* 'throw, fling'. A word similar phonologically to the previous one and found largely in the same stocks.

***tk̑en-** 'strike'. [Mayrhofer I, 423]. Grk *κτείνω* 'kill', *κτόνος* 'murder', (Ionic) *ἀνδρο-κτασίᾱ* 'manslaughter', OInd *kṣaṇóti* 'hurts, injures, wounds', *kṣati-* 'destruction, injury'. A word of the southeast of the IE world.

?*slak- 'strike'. [*IEW* 959 (**slak-*); Wat 61 (**slak-*); Buck 9.21]. MIr *slacc* 'sword', ON *slā* 'strike', OE *slēan* 'strike' (> NE *slay*), OHG *slahan* 'strike', Goth *slahan* 'strike'. Found

only in Germanic and Celtic, this may have been a dialect word of the far west of the IE world.

?*depḥₓ- 'strike'. [*IEW* 203 (**deph-*)]. SC *děpiti* 'strike', Arm *top'em* 'strike'. Sparingly attested and perhaps a dialect word of the IE center. The relationship, if any, to Grk *δέφω* 'scrape, soften (a hide); masturbate', phonologically (with *-ph-* rather than *-p-*) and semantically divergent, is hard to determine.

[D.Q.A.]

STRIPED *see* SPECKLED

STRONG

****bélos*** 'strong'. [*IEW* 96 (**bel-*); Wat 5 (**bel-*); Buck 4.81]. Lat *dēbilis* 'weak, infirm', OCS *bolĭjĭ* 'larger', Grk *βέλτερος* 'better', OInd *bálam* 'power, strength'. This may be the strongest etymology containing the very rare PIE **b-*; as a result, it has been scrutinized repeatedly but not definitively rejected.

****u̯eĝ-*** 'strong'. [*IEW* 1117–1118 (**u̯eĝ-*); Wat 74 (**weg-*); GI 206 (**Hu̯ek'-*); Buck 4.63; BK 499 (**wak'-/*wək'-*)]. Lat *vegeō* 'to enliven, stir up', OInd *vā́ja-* 'strength', *vájra-* '(Indra's) thunderbolt, (later) diamond'. While a broad group of Germanic terms has traditionally been included here: ON *vakna* 'to awaken', OE *wæcnan* 'to wake up' (> NE *wake*), OHG *wahhēn* 'to wake', etc., the vocalism is a problem. Also TochAB *wāśir* 'thunderbolt, diamond', sometimes included here, may be an Old Indic loan. Uncertain IE status.

See also CLUB; STRENGTH. [J.C.S.]

STUPID

??*mōr- [*IEW* 750 (**mō(u)-ro-*); Wat 43 (**mō(u)ro-*); Buck 17.21]. Grk *μωρός* 'stupid', Hit *marla(nt)-* 'foolish'. Although included in earlier works, OInd *mūrá-* 'foolish, stupid' is not now regarded as cognate, given the differences in vocalism between the Greek and Indic words.

[J.C.S.]

STURGEON

?*h₂eḱe(tro)- 'sturgeon (*Acipenser* spp. and *Huso huso*)'. [cf. *IEW* 18–19 (**aḱ-*); BK 398 (**ħuk[h]-/*ħok[h]-*)]. Lat *acipēnser* 'sturgeon', OPrus *esketres* 'sturgeon', Lith *eškėtras* 'sturgeon' (also Lith *erškėtas* 'sturgeon' by contamination with *erškėtis* 'thorn'; the Baltic *-k-* is also secondary in some way), Rus *osëtr* 'sturgeon', SC *jèsetra* 'sturgeon' (Proto-Slavic **jesétrŭ*). There clearly seems to be a tradition in various IE groups of designating this fish with derivatives of **h₂eḱ-* 'sharp' (just as in the case of 'perch'). It is, however, doubtful that the evidence would allow the sure reconstruction of a PIE term.

?*str̥(hₓ)i̯on- 'sturgeon'. Lat (< Gaul) *sariō* (later *fariō*) 'salmon trout', ON *styrja* 'sturgeon', OE *styri(g)a* 'sturgeon', OHG *sturio* (whence medieval Lat *sturio* 'sturgeon' and, via OFrench, NE *sturgeon*). Perhaps a late dialect word of the far west of the IE world. The exact phonological and morphological mapping of the putative Celtic and Germanic reflexes is encouraging. The semantic divergence is, however, bothersome as the sturgeon and salmon (or trout) are not perceptually similar. If related, the surprising change of meaning in Celtic may be the result of the rarity of sturgeon in western Europe.

Although lexically of no great antiquity, the distinctive appearance of the sturgeon could well motivate those names derived from the concept of 'sharp' as the snout is pointed and the fish, which lacks scales but is covered instead with sharp bony plates or scutes. There is a large variety of sturgeon species but their primary distribution tends to be in central and eastern Europe (*Acipenser stellatus, ruthenus*, etc.) while *Acipenser sturio* is common in the rivers flowing into the Baltic and *Acipenser naccari* (Adriatic sturgeon) might help explain the reflex in Italic.

See also FISH; PERCH. [D.Q.A.]

Further Reading

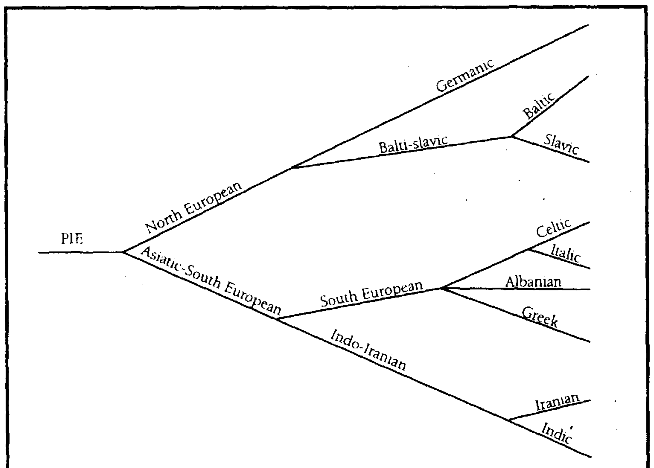
Witczak, K. T. (1991) Indo-European **sr̥C* in Germanic. *KZ* 104, 106–107.

SUBGROUPING

The subgrouping of the various Indo-European stocks, or the describing of their various interrelationships, remains an enduring puzzle for Indo-Europeanists. The difficulty arises however, not from a lack of evidence but rather from an overabundance of evidence whose import is not easily categorized. Thus the model of Indo-European subgrouping has evolved over time, an evolution that has resulted both from increasing knowledge of Indo-European languages and from differing methods of defining subgroups.

The earliest model of intra-Indo-European relationships that gained a considerable currency was that of August Schleicher (1821-1868). After a preliminary attempt that put Celtic as the earliest PIE group to diverge from the parent stock, he settled in 1861 on a model that placed Celtic alongside Italic.

In general, establishment of a subgroup, say, Italo-Celtic-Greco-Albanian, was predicated on the constituents of the subgroup sharing some innovation or innovations unknown elsewhere. The innovations could concern vocabulary, morphology, phonology, or syntax. A lexical example might involve the choice of the word for 'fire' in a particular stock; was it a relative of English *fire* (as in Germanic, Umbrian, Greek) or a relative of Latin *ignis* (as in Latin, Baltic, in Slavic [in the form of derivatives], and Indic)? An important morphological distinction was that between those languages which marked the present tense of medio-passive verbs with a suffixed **-i* (Greek, Indic, Iranian, probably Germanic) as opposed to those that marked it with a suffixed **-r* (Celtic, Italic, and Phrygian). Another well-known morphological distinction was between those languages that showed a **-m-* in the dative plural of nouns (Germanic, Baltic, Slavic) and those that showed a **-bh-* (the rest, insofar as they preserve

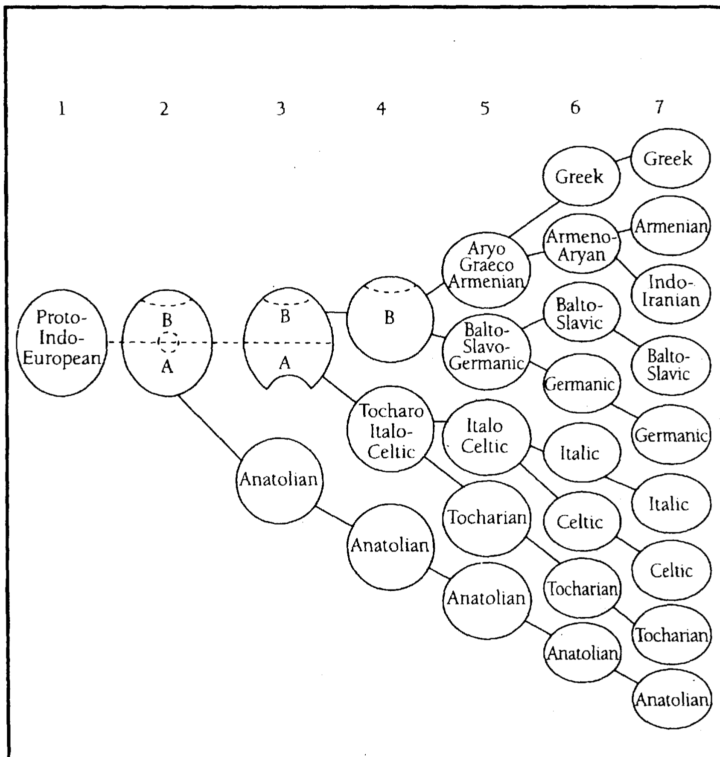


Subgrouping I The Indo-European family "tree" according to August Schleicher (version 1861).

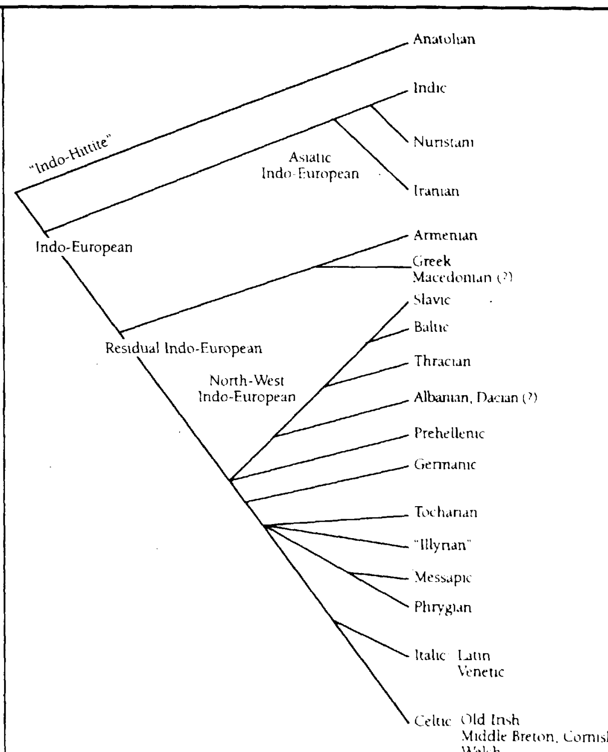
any ending at all). A good phonological example is the retraction of PIE *-s to *-š- after *-r-, *-u-, *-k-, and *-i-, something that is found in Baltic, Slavic, Iranian, and Indic, but nowhere else.

The trick of course was deciding just what was an innovation. If Albanian, for instance, lacked a particular feature that was to be found in Celtic, Italic, and Greek (and nowhere else), did that mean that the putative Celtic-Italic-Greco-Albanian subgroup was to be further divided into a Celtic-Italic-Greek group on the one hand and an Albanian group on the other? Or did it mean that Albanian had simply lost that particular feature at some point in its history? In general it is not always easy to distinguish between a once universal feature that has been lost in several groups from a feature that was never universal, but rather an innovation that was common only to a subset of stocks. Of our examples, contemporary investigators are fairly certain that the dative plural *-m- is an innovation as is the retraction of *-s-. The medio-passive marker *-i* is probably an innovation vis-à-vis the alternative *-r, while the choice of a word 'fire' is idiosyncratic to each stock (or even each language, cf. the different choices within Italic of Latin *ignis* but Umbrian *pir*). (It might also be noted that only the *-m- versus *-bh- distinction fits well into Schleicher's schema.) In practice, then, single features were not very good evidence for subgrouping and thus linguists looked for whole sets of features that together might define subgroup membership.

The whole process is admittedly subjective and, as such, might easily lead to disagreements among investigators. For instance, some of Schleicher's subgroups are more obvious than others. If one considers just the ten well-attested Indo-European stocks known in the nineteenth century (i.e., Celtic, Italic, Germanic, Baltic, Slavic, Albanian, Greek, Armenian, Indic and Iranian), it was clear from the beginning that Indic and Iranian bear an especially close relationship to one



Subgrouping II A modern subgrouping of the IE languages according to T. Gamkrelidze and V. Ivanov (1986).



Subgrouping III A modern subgrouping of Indo-European according to Eric Hamp (1990).

another. So close is the relationship that many an Avestan sentence can be made into a perfectly acceptable Sanskrit sentence merely by mechanically applying a few phonological rules. The same is true in reverse, going from Sanskrit to Avestan. It must be the case, then, that in the not very distant prehistory of Indic and Iranian the two were mutually intelligible. The two stocks even share a common self-designation, *arya-* 'aryan'. Thus, no one has ever doubted that there was a more or less uniform Proto-Indo-Iranian intermediate in age between Proto-Indo-European and the attested Indic and Iranian.

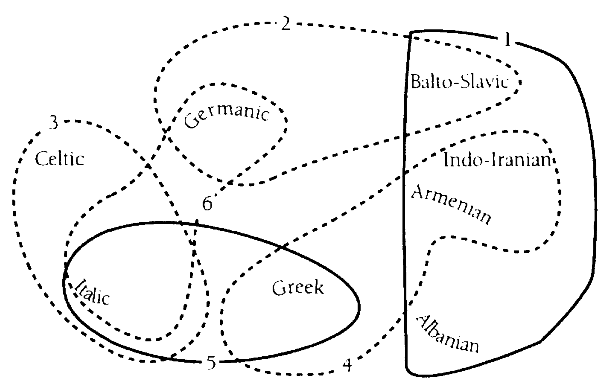
While not so closely allied as Indic and Iranian, Baltic and Slavic share many similarities of development, most particularly in the restructuring of the verbal system and in the development of the Proto-Indo-European accentuational system. On the other hand, they go in different directions, surprisingly often in the matter of vocabulary, and thus the question arises as to the origin of their similarities: are those similarities the result of inheritance from a common ancestor, i.e., Proto-Balto-Slavic, intermediate Proto-Indo-European and the attested Baltic and Slavic, or the result of the fact that the two groups have apparently always lived side by side and been in a position to influence one another linguistically?

Finally the resemblances between Italic and Celtic have sometime been thought to necessitate an intermediate Proto-Italo-Celtic but, probably as often, been thought to reflect nothing more than shared, but independent, innovations or retentions. As we have already noted above, this indeterminacy of Italo-Celtic is reflected in Schleicher's revision of his earlier model, one in which Celtic diverged very early from an otherwise undifferentiated Proto-Indo-European and his later model, given here, where Italo-Celtic forms a close subunit.

Methods of Subgrouping

Schleicher's models, like other similar models of IE subgrouping, were rather deliberately patterned after Darwin's biological model of speciation (i.e., the process whereby one plant or animal species splits into two or more). Speciation (and language split) was viewed as a more or less instantaneous event in which a formerly unitary population was divided (by migration, uplift of mountains, etc.) into two (or more) reproductively isolated populations, each of which would then undergo independent changes which resulted in a greater and greater divergence between the newly established groups. Just as in biology, the various splits and subsequent resplitting of what had been a single linguistic community could be represented by a *Stammbaum* or "Family Tree" model.

However, as the nineteenth century progressed, it became increasingly clear that language "speciation" was not necessarily an abrupt process, though it could be. Natural languages were increasingly appreciated as congeries of dialects rather than as monolithic wholes. A given dialect would share linguistic features (e.g., pronunciation, lexical choices) with neighboring dialects in a complex and overlapping fashion. This complex pattern of sharing resulted



Subgrouping IV "Wave model" of the Indo-European stocks according to Leonard Bloomfield (1933). Isogloss 1. the satəm languages; 2. those stocks that substitute **-m-* for **-bh-* in certain case endings; 3. languages with a medio-passive ending in **-r*, 4. languages that utilizes the augment **e-* for certain past tenses; 5. languages where masculine suffixes are applied to feminine nouns; 6. languages where the perfect tense serves for the past tense.

from the adoption by only certain portions of the larger community of linguistic innovations that have run through the community in a wave-like fashion (hence the designation *Wellentheorie* "Wave Theory") without necessarily affecting all of its parts (one might compare in New English the "loss" of /r/, or rather its shift at least originally to [ə], which has affected the English of the south and east of England, South Africa, Australia, New Zealand, and certain areas on the east coast of North America, but not the west of England, Scotland, Ireland, or most of North America).

If such a complex dialect grid were eventually to come apart and be resolved into two or more groups, each resultant group would share certain features with other groups but the pattern would not be reducible to that of a bifurcating tree. Leonard Bloomfield (1887-1949) illustrated this kind of pattern in a diagram that reconstructs the geographical distribution of pre-Greek, pre-Germanic, etc., while they were still parts of a single, complex, PIE linguistic community. However, it does not have too much to say about the actual process by which the single linguistic community, albeit one divided into distinguishable dialect groupings, came to divide into two or more independent groups.

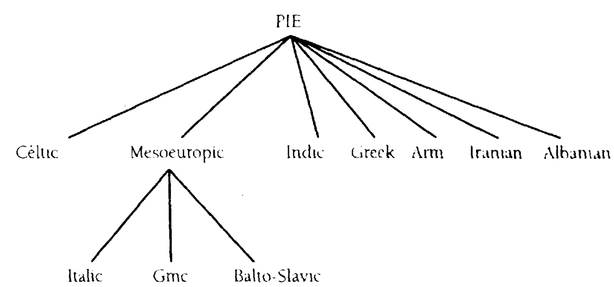
Both sharp splits and more gradual dissolution are possible modes of creating two linguistic units out of one. As a result they are complementary processes whereby we can understand how the linguistic situation presented by the Indo-European languages came to be, not competitive ones. The search for sharp splits, however, remains the more popular choice as the creation of a proper *Stammbaum* allows the possibility of throwing some light on the history of the various Indo-European groups after the initial period of unity was past.

The *Wellentheorie*, like the *Stammbaumtheorie*, can be criticized as overly subjective, being dependent on the investigator's judgements as to what are the significant innovations that various subgroups might share. In the last fifty years or so various mathematically based schemes have been suggested in the hopes of making the Indo-European family tree (and the family trees of other languages) more precise. The first method to achieve widespread support is that called either "lexico-statistics" or "glottochronology" and was analogous to radiocarbon dating. In this technique the age of organic material can be measured since it contains the unstable isotope ^{14}C which disintegrates at a constant rate (it has a half-life of 5730 years). Morris Swadesh (1909–67) argued that vocabulary replacement behaved very much like ^{14}C decay in that it occurred at a constant rate. One could not predict, of course, when a given word would be replaced by another but certainly over time words were replaced and apparently at a more or less steady rate, at least for what he termed the "core vocabulary". For Swadesh the core vocabulary consisted of words, both nouns and verbs, for very familiar concepts and actions (parts of the body, designations for nuclear family members, natural objects, common actions) that, learned by children as they were at the very earliest stages of language acquisition, were most resistant to borrowing from other languages. On the basis of some tests on known languages, the following formula was developed:

$$t = \log c/2 \log r$$

where t = time since separation, c is the percentage of shared cognates, and r the percentage of cognates that would remain after a thousand years of separation (81%).

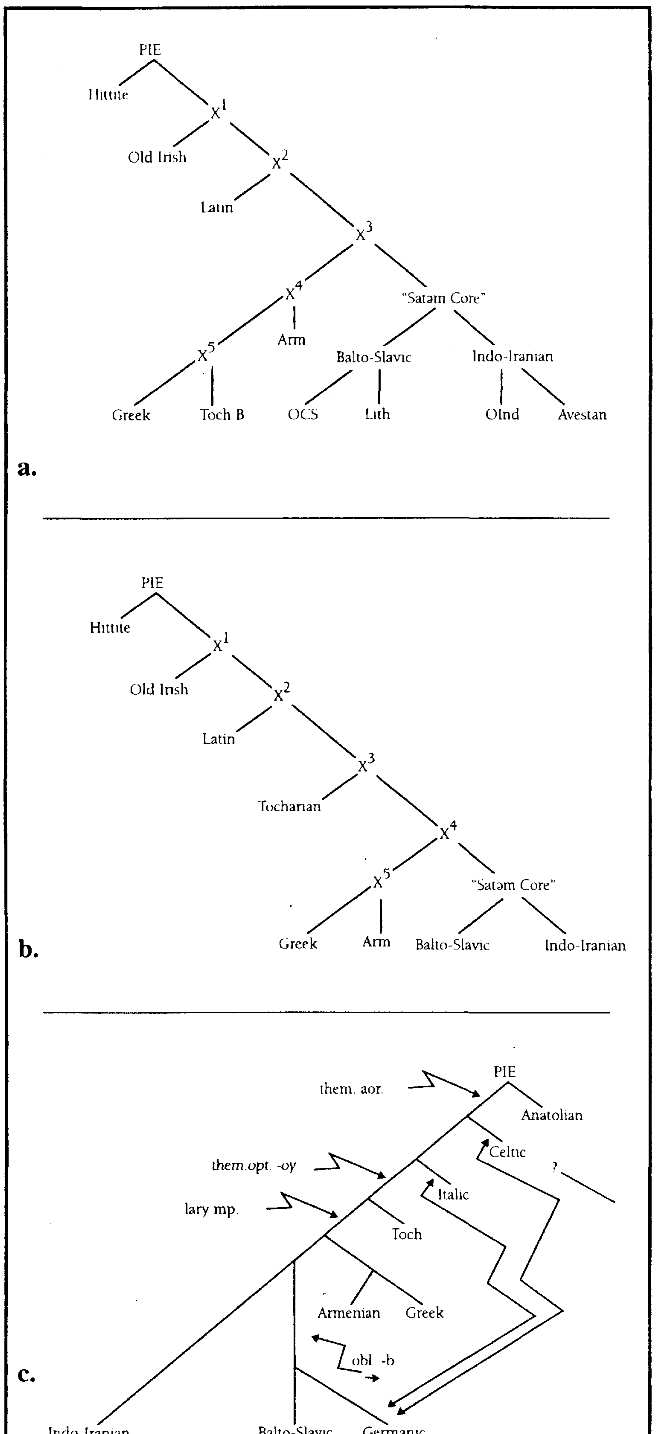
After being hailed, at least by some, as a great break-through in historical dating, this method has fallen on hard times. Critics have raised a number of substantial problems, two of which are critical. First, how can one develop a truly universal list of basic vocabulary? ('Sun' and the words for the first and second personal pronouns seem remarkably "basic" and stable in most of the world but in eastern and southeastern Asia they are clearly subject to borrowing or other varieties of replacement; 'Yellow' only occurs in more advanced color-naming systems and is by no means "basic" in many of the languages of the world, etc.) Secondly, how can one be certain that vocabulary replacement really does take place at a constant rate (when tested the actual rate seemed to vary from 0%, in Icelandic, to 67%, for Eskimo)? The answer to the latter question may be that given sufficient time vocabulary replacement does at least approach a constant rate, even though in historically measurable periods of time the rate shows a great deal of fluctuation (however, the existence for longer or shorter periods of time or the custom of "taboo replacement", i.e., the deliberate disuse and replacement of words resembling, say, the name of a deceased member of the community, would seem to vitiate any notion of a constant replacement, at least in the affected language groups); that one can answer the first question satisfactorily at all seems most problematic.



Subgrouping V A "flat" tree of the IE languages prepared on the basis of shared lexical items derived from the modern IE languages by Dyen *et al.*(1992).

It is important, however, to note that Swadesh's system was designed to do two rather different things: (1) to subgroup language families and build "trees" that would reflect the process by which a single linguistic community had become a language family, and (2) to give an absolute date to the various splits. The second goal was the more exciting and more ambitious one and the one most dependent on the notion of a "constant". It is also the goal whose claims to success are demonstrably the weaker. When applied to Indo-European data, the method seems to give unbelievable dates (a separation of French and Italian in the mid sixteenth century AD) or dates that contradict all other data (such as dating the split between [pre-] Greek and [pre-] Latin at 3000 BC but a split between [pre-] Latin and [pre-] Irish at 3700 BC).

As a tool for constructing family trees, it may be more viable. In what is certainly the most extensive test of lexico-statistics ever made of known data, Dyen, Kruskal, and Black used eighty-four different lists of Indo-European languages or dialects to construct a family tree of Indo-European. (They restricted themselves to modern languages, e.g., Italian and French, etc., rather than Latin, and thus Anatolian and Tocharian of the twelve major Indo-European groups are excluded altogether). If one translates their results into a family tree pattern, it would produce a "shallow" tree that looks, in many respects, like trees arrived at by other methods. Their results strongly support the existence of Balto-Slavic as a well-defined intermediate stage between Proto-Indo-European on the one hand and Proto-Baltic and Proto-Slavic on the other. They find evidence for a grouping of Italic, Germanic, and Balto-Slavic but find no evidence in support of any special Italo-Celtic group. Indeed Celtic, on the basis of their data and methodology, would seem to be a distinct and early offshoot of Proto-Indo-European. Most surprising is that they find no evidence for the obvious grouping of Indic and Iranian. Clearly in this one instance at least (as they readily admit) lexico-statistics does not produce the correct answer, though



Subgrouping VI a. The "best" tree of the IE languages (excluding Germanic) according to Ringe *et al.*(1996); b. The second best fit of the IE tree according to Ringe *et al.*; c. A tree that accommodates the special relationships between Germanic and the other IE languages. Here, the Germanic stock is seen to evolve morphologically with southern languages but "separated" before palatalization of the velars where it joined both Italic and Celtic with which it shares a considerable amount of vocabulary.

they argue that their test has proven the method of sufficient utility to be used as at least one tool in the arsenal of the linguist trying to reconstruct a family tree.

Recently Donald Ringe and others have proposed a new mathematical model for discovering the pattern of branching in the prehistoric development of linguistic families. This method is explicitly modeled on the contemporary practice, called cladistics, by which biologists infer evolutionary history for biological species. Their methodology involves three essential components: (1) encoding linguistic information using qualitative characters (i.e., a specific point of grammar or lexicon where languages can agree or disagree), (2) using an algorithm to find the optimal and near-optimal trees, (3) and finding methods for discovering the common features of the best trees generated by the first two steps. As they are the first to admit, the first step, encoding linguistic information as qualitative characters, involves linguistic judgements (that may not be universally shared) as to whether a given piece of information ("a character") is or is not relevant to the evolutionary tree. Even if all are agreed as to the relevance of a given character, all may not be agreed as to how that character should be encoded. Their choice of characters is also constrained by a desire to exclude "natural" changes that might occur independently in more than one branch. Thus the phonological characters they include are restricted to two: (1) the "ruki" retraction of PIE **s* after PIE **k*, **r*, **i*, and **u*, and (2) and the satəm merger of velars and labio-velars. Their method does not necessarily construct a single tree but rather several trees (a small grove if you will) that meet or nearly meet the goal of being minimal, i.e., that represent the information forced by the data set and no other.

Since the full list of linguistic characters that they have used (comprising forty-nine lexical, seven morphological, and two phonological characters) has not yet been published, it is hard to judge how good the methodology is. However, their results do tend to match the results reached by less mathematical and more intuitive methods (and by lexico-statistics). Excluding Germanic which we will return to below, their best tree was constructed where only two lexical and two morphological characters did not fit and their second best tree had four lexical and one morphological characters that did not fit.

Largely because of loss, Albanian has relatively few characters in common with other Indo-European groups and thus it can be placed anywhere on the tree, provided it is above the "Satəm Core" and not a member of the subtree containing Greek and Armenian.

The position of Germanic is difficult to determine. Any tree with Germanic included has many characters that do not fit. Excluding Germanic allows trees, such as the two given above, where the overwhelming majority of characters do fit. It is also noteworthy that the lexical data from Germanic points in a different direction, as it were, than the morphological data. They attribute this "dual allegiance" as evidence that pre-Germanic began to develop with the "Satəm Core" (more

particularly paired with Balto-Slavic) but moved away from that group early on (before many of the special innovations defining that core group had developed) and into contact with the western groups of Italic and Celtic from which it borrowed a number of distinctive vocabulary items sufficiently early that these borrowings cannot be distinguished from true cognates. (They recognize that these "undetectable borrowings" are worrisome for their model, and of course any other that relies on lexical equations.) Beyond that they note that this methodology strongly supports that notion that Anatolian was the first of the subgroups to separate from the rest of Proto-Indo-European and that the Italo-Celtic hypothesis is "weakly denied" by the data.

The historical linguist, for whom the possibility of assigning absolute dates to language splits or mechanically describing the order of these splits may seem as distant as ever, can take cold comfort in that neither radiocarbon dating nor biological cladistics, the models for so much of the historical linguistics' work in this area, have found as smooth a road in their "home disciplines" as originally supposed. It turns out for instance that the amount of ^{14}C in the atmosphere is not an absolute constant and thus radiocarbon dating can underestimate the true age of an object, unless the date can be calibrated with the aid of tree-ring dating. Likewise, the determination of speciation on the basis of comparing DNA sequences (themselves very much analogous to Ringe's "characters") may at times result in the same frustrating indeterminacy as the corresponding linguistic analysis. As J. Marks observes: "Analysis of DNA sequences has proven vexingly ambiguous in attempting to discern the two closest relatives among humans, gorillas and chimpanzees. Most analyses of mitochondrial DNA are so equivocal as to render a clear phylogeny impossible, the preferred phylogeny relying critically on the choice of outgroup and clustering technique."

Conclusions

When all is said and done, there is probably a certain amount of consensus around a view that sees the Anatolian group as separating somewhat earlier from the rest of the Proto-Indo-European than any other attested stock. The departure of the pre-Anatolians would seem to have left a largely undifferentiated "residual" Proto-Indo-European. Subsequently the residual Proto-Indo-European expanded geographically and developed into a long dialect chain from "east" to "west" (the exact geography of the dialect chain remains completely speculative). On one end we have Celtic (which may or may not have had a special relationship with Italic), Italic, Germanic, Baltic, Slavic (these three with some obvious close relationships), then the "southeastern" group of Greek, Armenian, Iranian and Indic, from which Greek and Armenian disengaged themselves sufficiently early to allow Baltic and Slavic on the one hand and Indo-Iranian on the other to forge new links between themselves. Albanian apparently belonged somewhere in the center with Slavic relatively close by while the position of Tocharian remains problematic. It would seem not to be closely connected with any other IE stock (and certainly not with Indo-Iranian, its closest attested neighbors), but what connections it does have would seem to be with the west, with Germanic and Greek. This dialect chain "fell apart" at different times and certainly different places. Certainly Indo-Iranian remained a single unity until relatively late. Indeed, a larger "southeastern group", composed of Indo-Iranian, Greek, and Armenian seems to have remained something of a unit after a "northwestern group" composed of Germanic, Baltic and Slavic, perhaps also of Italic and Albanian, and less certainly yet of Celtic, had broken off. Then to confuse the issue Indo-Iranian and Slavic seem to have, as we have had occasion to note, created new connections. The loss of unity was presumably gradual and episodic, though it need not have been a process, from the first to last, of over a thousand years or so, and perhaps even less (or more).

We must also remember that our knowledge of this dialect chain and its successors is restricted to those stocks which are historically attested. An untold number of separate stocks, knowledge of which might enable us to flesh out the record and close the gaps, say, between Italic and Germanic (or Tocharian and anything else), may well have disappeared before history and the written record caught up with them, linguistically assimilated to other IE stocks or to non-IE language groups.

Finally one may wonder just how important it is that we have an answer to the question of IE subgrouping: are there consequences to picking one model over another? The answer to that question is that it does matter for our understanding of what Proto-Indo-European was like. If it is true that Anatolian separated from an undifferentiated "residual" Proto-Indo-European, then the agreement concerning some particular feature (provided that feature could not be the result of independent creation) of Anatolian and any other IE stock would guarantee the reconstructibility of that feature to Proto-Indo-European. A concrete example of just that possibility would be PIE **donu* 'fir', attested only in Hit *tanau* and OHG *tannan-*. If, as many assume, Tocharian is also a branch that separated early from the rest of Proto-Indo-European, then an agreement of Tocharian and either Italic or Greek, say, would be equally compelling as an argument concerning the nature of Proto-Indo-European. On the other hand, if with one of Ringe's models, Tocharian is a member of a subbranch with Greek, then an agreement solely of Tocharian and Greek is not a very strong argument about Proto-Indo-European while an agreement of Tocharian and Italic remains compelling.

Since the full story of how Proto-Indo-European, a single linguistic entity, came to be differentiated into at least twelve separate stocks remains to be written, there is no "magic formula" by which we can use the knowledge of subgroups to reconstruct Proto-Indo-European. Each individual case must be decided on its own merits. Obviously the more widely spread a feature is, the more likely it is to reflect something of Proto-Indo-European age. The discussion in the individual

entries of the *Encyclopedia* however does tend to favor the view that Anatolian is the earliest attested offshoot of Proto-Indo-European.

See also INDO-EUROPEAN LANGUAGES; PROTO-INDO-EUROPEAN; RECONSTRUCTION; TIME-DEPTH. [D.Q.A.]

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SUCK

***dheh$_1$(i)-** 'suck'. [*IEW* 241–242 (*dhē(i)-*); Wat 13 (*dhē(i)-*); GI 487 (*d^{h}eH(i)-*); BK 602 (*diy-/*dey-*)]. OIr *dinid* ~ *denid* 'sucks', Wels *dyfnu* 'suck', Lat *fēlō* 'suck', OHG *tāju* 'suck', MHG *tīen* 'nurse, let suckle', Goth *daddjan* 'suck', Latv *dêju* 'suck', OCS *dojǫ* 'suckle', Grk (3rd sg aorist) *θήσατο* 'sucked', Arm *diem* 'suck', OInd *dháyati* 'sucks, suckles'. The PIE word for 'suck'.

***seug/k-** 'suck'. [*IEW* 912–913 (*seuk-/*seug-*); Wat 58 (*seuə-*); GI 124 (*seuk$^{(h)}$-*); BK 190 (*saw-/*səw-*)]. OIr *sūigid* 'sucks', Lat *sūgō* 'suck', ON *s(j)ūga* 'suck', OE *sūcan* 'suck' (> NE *suck*), OHG *sūgan* 'suck', Lith *sunkiù* 'allow to leak away', Latv *sùzu* 'suck', OCS *sŭsǫ* 'suck'. Less widely distributed than *dheh$_1$-*, this appears to have been a "northwesternism" in late PIE.

See also BREAST; EAT AND DRINK; LICK. [D.Q.A.]

SUFFER *see* PAIN

SUMMER *see* SEASONS

SUN

***séh$_a$ul** (gen. **sh̥$_a$u̯-én-s**) 'sun'. [*IEW* 881 (*sáu̯el-*); Wat 56 (*sāwel-*); GI 590 (*s(a)wHel-/n-*); Buck 1.52]. OIr (fem.) *sūil* (< *sūli-*) 'eye', MWels *heul* (< *saulio̯-?*) 'sun', *huan* 'sun?', Wels *haul* 'sun', Lat *sōl* (< *saul < *seh$_a$ul*) 'sun', ON (fem.) *sōl* 'sun', Goth (neut.) *sauil* (< *sōwilō*) 'sun', ON *sunna* 'sun', OE *sunne* 'sun', OHG *sunna* 'sun', Goth (fem.) *sunnō* 'sun', OPrus *saule* 'sun', Lith *sáulė* 'sun', Latv *saũle* (< *sauliā*) 'sun', OCS (neut.) *slŭnĭce* (< *sulni-*) 'sun', Alb *diell* (< *su̯el- < *sh$_a$u̯el-?*) 'sun', Grk (masc.) *ἠέλιος* ~ *ἥλιος* (< *sāwel-*) 'sun', Hit ^{D}UTU-*liya* (*saweliya*) 'sun', Av (neut.) *hvarə* (= *huar*) (gen. *x^{v}əng*) (= *huanh < *suans*) 'sun', OInd *svàr* (= *súar*) (gen. *svàr*) (< *suar-s*), (masc.) *sū́rya-*; (masc.) *sūra-* 'sun'. The original neuter *l/n*-stem can be reconstructed as proterodynamic *seh$_a$u-l*, with the genitive as *sh̥$_a$u̯-én-s*. The meaning 'eye' in Irish is understandable, as the sun was considered as an eye in both the *Ṛgveda* and in Homer and in the IE creation myth, the sun and eye are allomorphs of each other.

See also COSMOGONY; SKY; SUN GODDESS. [R.S.P.B.]

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SUN GODDESS

The existence of an IE Sun goddess is supported by a series of cognate names in Indic and Baltic.

The Indic sun-maiden *Sūryā* was the daughter of the Sun god *Sūrya* (or of the stimulating power of the sun, Savitṛ). In the *Ṛgveda*, Sūryā is sometimes described as the bride of the twin Aśvins, and sometimes the bride of the Moon god, Soma. Sūryā's mythology parallels that of the Latv Saules Meita, and *Saule(s)* is cognate with *Sūryā*.

Saules Meita was the Baltic 'Sun-maiden', daughter of the Sun goddess. She was married to the Dieva dēli, the twin sons of the Sky god, just as Sūryā was married to the Indic twin Aśvins. In another myth, the Dieva dēli were members of the bridal party, when Saules Meita married Meness, the Moon god, as Sūryā married the Indic Moon god, Soma.

See also DIVINE TWINS; GODDESSES; SUN. [M.R.D.]

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SURPASS *see* GO

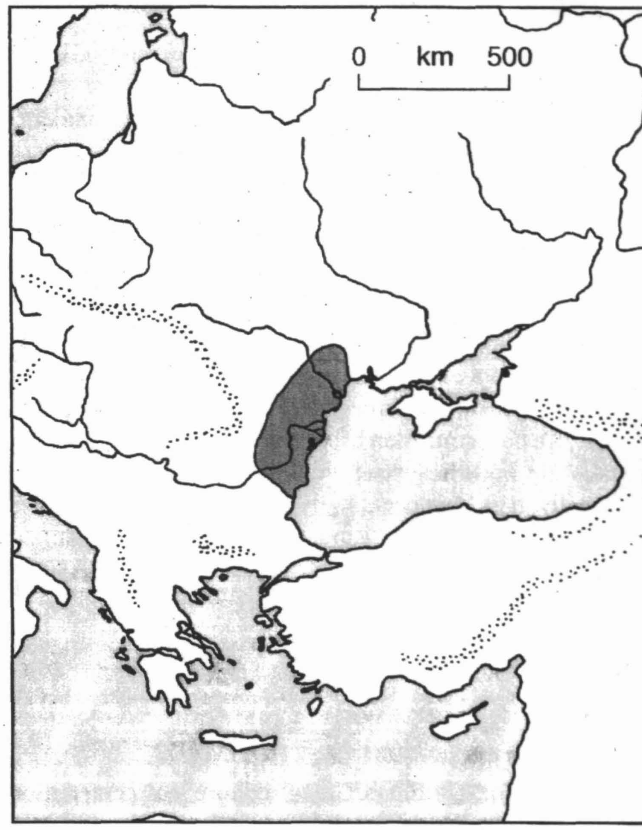
SUVOROVO CULTURE

The Suvorovo culture takes its name from a kurgan burial in Moldova. The culture as a whole, which is dated c 4500–4100 BC, is found both in the northwest Pontic and the lower Danube as far south as northeast Bulgaria. It is entirely defined by its burials. These include both flat graves and kurgans,

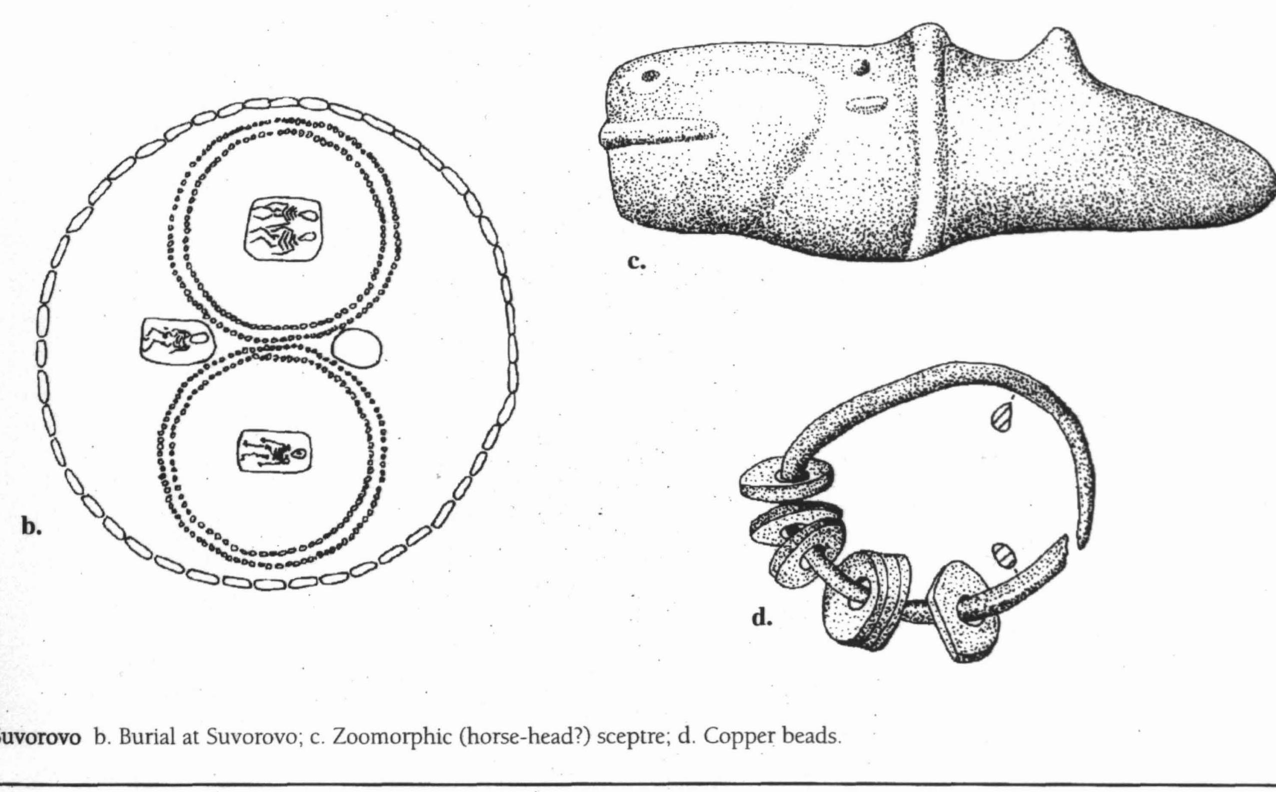
and as the Suvorovo burials are generally the initial burial under their kurgan, they mark the spread of kurgan burials into their historical region. The burials are placed in the supine position with their legs either extended or flexed; orientation is to the east or northeast. The roof of the burial chamber may be covered with logs or stone slabs. All of these features are characteristic of the burials found further east on the steppe and forest-steppe of the Ukraine and south Russia. At Suvorovo itself was found the burial of two individuals in a joint grave, normally identified as a male and a female, with the male accompanied by a stone "horse-head" scepter. Two other burials were also found under the same kurgan, the base of which was formed by a stone kerb some 13 m in diameter. Typical grave goods include ceramics of both the Tripolye and Gumelniţa cultures and shell-tempered wares typical of the steppe tradition. Flint tools and copper ornaments are also encountered.

The culture provides evidence of the spread of steppe tribes from the east to the west and in the "Kurgan" model of Indo-European origins is seen to reflect the first wave of Indo-Europeans from their homeland in the steppelands of the Ukraine and south Russia.

See also **Kurgan Tradition**; **Sredny Stog Culture**; **Yamna Culture**. [J.P.M.]



Suvorovo a. Distribution of the Suvorovo culture.



Suvorovo b. Burial at Suvorovo; c. Zoomorphic (horse-head?) sceptre; d. Copper beads.

SWAN

h₁el- 'waterbird, swan'. [*IEW* 304 (**el-*); *GI* 460 (**e/ol-*)]. OIr *ela* 'swan', Wels *alarch* 'swan', Lat *olor* 'swan', Grk *ἐλέᾱ* 'reed warbler'. Only the Celtic-Italic correspondence is semantically plausible and speaks for a late westernism. Baltic takes its term from the root **ĝhel-* 'be bright, golden': OPrus *gulbis* 'swan', Lith *gul̃bis* 'swan', Latv *gùlbis* 'swan' while Greek uses **k̑euk-* 'white, bright' [*IEW* 597 (**k̑euk-*)], i.e., *κύκνος* 'swan' which was borrowed into Arm *kiknos* 'swan' and Lat *cygnus* 'swan'.

Surely the swan (genus *Cygnus*), a bird of great beauty, was recognized as a discrete species by the Indo-Europeans despite the lack of wide-spread correspondences. But, at least in Indic, we note confusion between the 'swan' and the 'goose', for they are both heavy-set white birds, the swan differing principally in its long neck. In the *R̥gveda*, the IE goose word *haṃsa-* (< **ĝhans-* 'goose') appears to have been a swan.

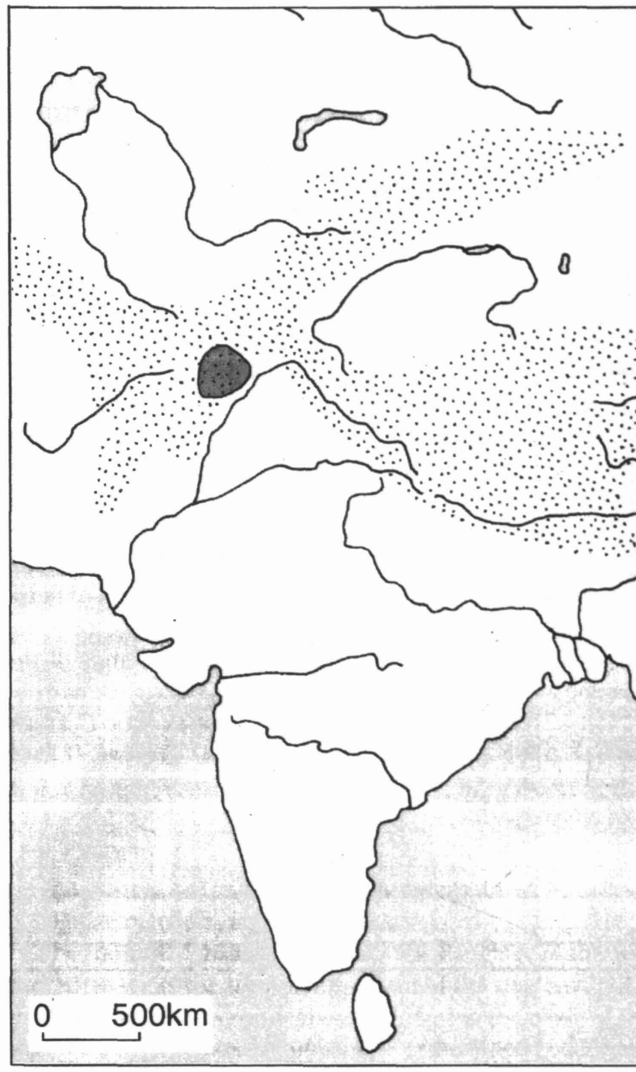
See also **Birds**. [J.A.C.G.]

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SWĀT CULTURE

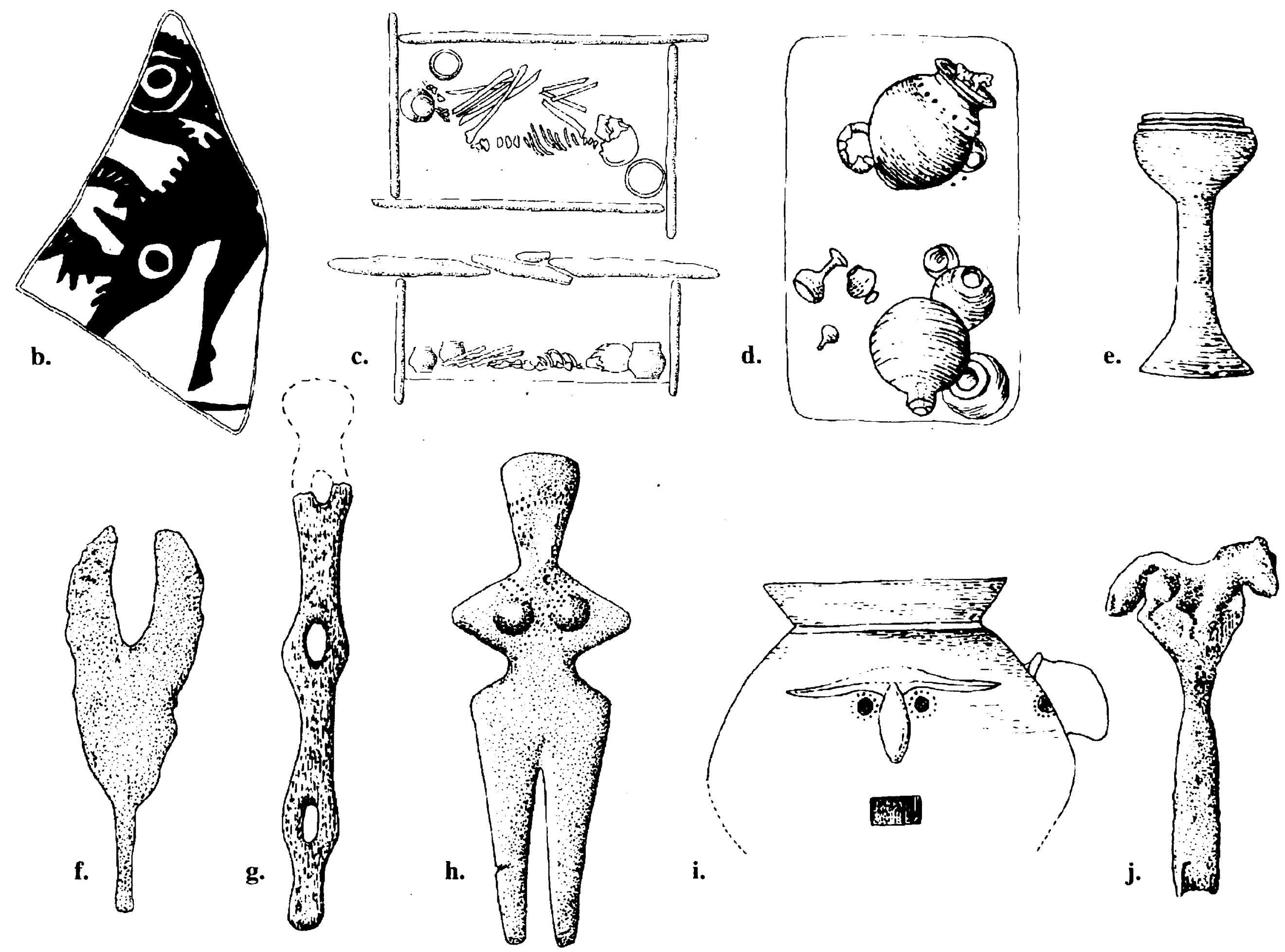
The Swāt (or Gandhara Grave) culture was centered on the Swāt Valley of northern Pakistan, a fertile region which one might predict as a major approach to the historical seats of the Indo-Aryans and one which is mentioned in the hymns of the *R̥gveda* (Swāt < OInd *Suvāstu-* 'having good dwelling'). The beginning of the culture, designated Period IV in the Swāt Valley sequence, appears *c* 1800–1400 BC and continues on through the transition period between the Bronze Age and Iron Age down to *c* 400 BC (some would argue only down to *c* 700 BC). The culture is primarily known from more than thirty cemeteries which tend to be sited near rivers. Its burial rites comprised flexed inhumation in a two-chamber pit, the upper chamber filled with soil and charcoal while the lower held the remains of the deceased and the grave goods. The burials were normally in the flexed position, heads often oriented to the north. Grave goods typically associated with males (e.g., maceheads, spearheads, razors) are found with burials flexed on their right sides while female-associated goods (e.g., spindlewhorls) are found with left-sided burials. This distinction reflects the same type of sexual dichotomy in mortuary ritual also found among other cultures, e.g., the Bishkent, Vakhsh, Tazabagyab, which have been associated with the earliest Indo-Iranians. In some instances there are double burials, apparently of a man and woman together. These burials appear to be sequential, i.e., the second burial was sufficiently later than the first to disturb the bones of the initial burial, and so they cannot be employed to suggest the practice of suttee (the immolation of the wife on the death of her husband). In fact, in some cases it would appear that the woman predeceased the male. There is some evidence also for fractional burial which has been more distantly linked to the burials of the Cemetery H culture in the Indus Valley. These burials, where the bones are placed in a heap in the bottom of the grave, often find the skull deposited last on top of the pile of bones.



Swāt a. Distribution of the Swāt culture.

Cremation burials in an urn, sometimes decorated with a face, are also known with cremation itself accounting for about a third of all the burials. At the site of Katelai there was discovered the remains of two complete horses buried in the cemetery. That the region would later be associated with horses can be seen in references to the Assakenoi who were reputed to occupy the valley during Alexander's march to India; the name is clearly the same as Indic *Āśvakāyana* 'horsemen' and other horse-associated tribal names are found within the territory.

Grave goods included pots (up to eleven in a single grave), especially drinking vessels, copper or bronze weapons (spearheads, arrows) and ornaments (of copper, bronze, silver and gold), bronze razors, spindlewhorls, and figurines (both



Swāt b. Scene on black-on-red painted vessel depicting horse being attacked by fantastic beast; c. Burial from Kherai; d. Urn grave from Loebanr; e. Stemmed vessel; f. Metal (copper or bronze) razor; g. Iron cheek-piece; h. Clay figurine; i. Face urn from Timargarha; j. Clay animal figure (horse?).

anthropomorphic and zoomorphic), made of bone or alabaster. Meat offerings included the remains of deer, sheep/goat, hare and horse.

Settlements attest semi-subterranean houses and more substantial walled structures. The ceramics of Period IV are marked by a burnished black-gray ware, generically similar to that of the Iranian highlands and shapes find parallels with pottery from Dashly and other sites of northern Afghanistan, a region frequently favored as a staging area for Indo-Iranian migrations. Ceramics also include black on red decorated wares depicting a variety of birds, including the peacock which is also seen on ceramics of the Cemetery H culture of the Indus. Another motif is the horse found on a sherd from Bīr-koṭ-ghwaṇḍai. It is depicted as being attacked by some fantastic animal, a motif frequently associated with the early Indo-Iranians. Horse bones were also found at the same site and mark its earliest appearance in this region. There is evidence of distant exchange in shell ornaments from the Indian or Arabian seas, jade from southern Xinjiang, lapis lazuli from Afghanistan, while one of the items of export was the *deodar* cedar which may have been imported south to the Harappan culture.

The economy included mixed agricultural and stock-breeding with some hunting. Plant remains included grains of wheat (*Triticum aestivum*), barley (*Hordeum vulgare*), rice (*Oryza sativa*), lentil (*Lens*), pea (*Pisum arvense*), flax (*Linum usitatissimum*), grapevine (*Vitis vinfera*), and presumably weeds such as rye (*Secale*) and oats (*Avena sativa*). The domestic animals comprised zebu cattle (*Bos indicus*), sheep/goats, pig and dog. Hunted species comprised some form of wildcat, *Pantherus* (probably tiger or possibly lion), barking deer (*Muntiacus muntjak*), hog deer (*Axis porcinus*), possibly red deer (*Cervus elaphus*), grey goral (*Noemorhedus goral*), the markhor (*Capra falconeri*), the hare, and the Indian crested porcupine (*Hystrix indica*). As noted above, the culture also sees the introduction into the region of the horse, including

horse-gear, as well as a distinctive gray ware. At the earlier sites, there are also donkeys (*Equus asinus*) and these outnumber the horses. Butchery marks on the bones suggest that, among other uses, the animals were also eaten. The presence of the horse and the mode of burial have been connected to the Bishkent and Vakhsh cultures of Central Asia while the ceramics have been controversially claimed to share affinity with wares found in northwest India (although they do not appear to parallel the more southerly ceramics in terms of shape). Whether this affinity is true or not, the Swāt culture has been recognized to be in the right place at the right time and bearing the right sort of culture to be identified with a movement of Indo-Aryans or, given their specific location, possibly Dardic or Nūristāni-speaking people to the northwest corner of the Indian subcontinent.

See also **BMAC**; **CEMETERY H CULTURE**; **HARAPPAN CULTURE**; **INDO-IRANIAN LANGUAGES**. [J.P.M.]

Further Readings

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SWEAR

$h_a$emh$_3$- 'lays hold, grasps; swears'. [*IEW* 778 (**omə-*)]. Grk ὄμνῡμι 'swear' (the present is probably a Greek innovation; the aorist is ὀμόσαι), OInd *ámīti* 'lays hold of, grasps; swears'. Probably 'swear' is a late semantic specialization, found only dialectally in late PIE, of 'lay hold, seize'. Another semantic specialization of this same root, also found only in the southeast of the IE world, is seen in **$h_a$emh$_3$-īu̯eh$_a$-* 'suffering'.

See also **BLAME**; **OATH**; **PAIN**. [D.Q.A.]

SWEAT

su̯eid- (pres. ***su̯éide/o-*** ~ ***su̯idi̯é/ó***) 'sweat'. [*IEW* 1043 (**su̯eid-*); Wat 68 (**sweid-*)]. Lat *sūdō* (< **su̯eidō*) 'sweat', OE *swāt* (noun) 'sweat', *swǣtan* 'sweat' (> NE *sweat*), OHG *swizzen* (< **su̯idi̯e/o-*) 'sweat', Latv *svīstu* 'sweat', Alb *dirsem* 'sweat' (denominative of *dirsë* [< **su̯idrVti̯eh$_a$-*] 'sweat' [noun]), Grk ἰδίω 'sweat', Arm *k'irtn* 'sweat' (noun), Av *xvaēδa-* 'sweat' (noun), OInd *svédate* ~ *svídyati* 'sweats', TochB *syelme* (< **su̯idi̯o-* + abstract-forming suffix **-elme*) 'sweat' (noun). Widespread in IE, clearly of considerable antiquity in PIE though absent in Hittite.

$h_4$elh$_1$-n- 'sweat' (noun). [Puhvel I: 28]. OIr *allas* (< **ala-n-asso-?*) 'sweat' (noun), Hit *allaniye-* 'sweat' (vb.). Cf. Grk ἀλέα 'warmth, body heat', TochB *äläsk-* 'be sick' (< *'be feverish'). Probably from **$h_4$elh$_1$-* 'burn'. Though only sparsely attested, the probable formal equation of Old Irish and Hittite makes it likely that we have another PIE word for 'sweat' (< *'product of [excessive] body heat' or the like).

See also **ANATOMY**; **BURN**. [D.Q.A.]

SWEET

su̯eh$_a$dús 'pleasing (to the senses), tasty'. [*IEW* 1039–1040 (**su̯ādú-s*); Wat 67 (**swād-*); GI 100 (**swāt'-*); Buck 15.35]. Gaul *Suadu-rīx* (personal name), *Suadeuillus* (personal name), Lat *suāvis* 'pleasant (to all senses)', ON *sœtr* 'sweet', OE *swēte* 'sweet, pleasant' (> NE *sweet*), OHG *swuazo* 'sweet, pleasant', Grk ἡδύς 'what is pleasing to the senses, sweet', OInd *svādú-* 'sweet', TochA *swār* 'sweet', TochB *swāre* 'sweet'. The zero-grade is reflected in Lith *sūdyti* 'to salt, season', OInd *sūdáyati* 'make tasty' (cf. also other verbal forms as Lat *suādeō* 'advise, persuade'). The root **su̯eh$_a$d-* is well attested, particularly in the formation **su̯eh$_a$d-ús*, thus PIE status appears safe. Note the variety of semantic developments here. Germanic (to some extent), Indic and Tocharian show the very specific 'sweet' and Baltic attests 'to season, salt', thus 'to make tasty'; Latin and Greek (and presumably Celtic as well) have the more general meaning 'pleasing'.

?*dl̥kus ~ ****glukus*** 'sweet'. [*IEW* 222 (**dl̥kú-*); Wat 15 (**dl̥k-u-*); Buck 15.35]. Lat *dulcis* 'sweet', Grk γλυκύς 'sweet'. Traditionally, this equation has been based on an assumption of Greek *dl* > *gl*, driven by distant assimilation. More plausible is the reverse development of *gl-* > *dl-*, parallel to the well-established Lat **glakt-* > **dlakt-*, but avoiding later simplification of **dl-* to *l-* by prior metathesis to **dulk-*. Even accepting this proposal though, there is little reason for proposing an IE form given that the distribution is limited to neighbors with a long history of contact.

See also **FAVOR**; **PLEASE**; **TASTE**. [J.C.S., D.Q.A.]

SWELL

k̂euh$_1$- 'swell (with power), grow great with child' (pres. ***k̂uh$_1$éi̯e/o***). [*IEW* 592–594 (**k̂eu-*); Wat 31 (**keuə-*); cf. GI 87]. Lat *inciēns* (< **in-cuient-*) 'pregnant', Grk κυέω 'am pregnant' (ἔγκυος 'pregnant'), OInd *śváyati* 'swells, becomes strong/powerful'. A verbal noun **k̂óuh$_1$r̥* (gen. **k̂uh$_1$nós*) is reflected in OIr *cōraid* 'heroes', Wels *cawr* 'giant', Lith *šaũnas* ~ *šaunùs* 'robust, doughty', Grk ἄκῡρος 'invalid, void' (< *'without power'), κῡ́ριος 'powerful; lord', Av *sūra-* 'strong, powerful', OInd *śūra-* 'powerful; hero'. Cf. also **k̂euh$_1$es-* 'swelling' in Wels *cyw* 'young of an animal', Grk κύος 'fetus', OInd *śavas-* 'strength, power; heroism', or **k̂uh$_1$nós* 'swollen' in ON *hūnn* 'young one', OE *hūn* 'young one', perhaps Hit *kunna-* 'right(hand)', OInd *śūná-* 'swollen'. (The Hittite word, if it belongs here, would seem to argue for **k̂euh$_2$-* while the Greek word would point to **k̂euh$_1$-*.) Widespread and old in IE.

teuh$_a$- 'swell (with power), grow fat'. [*IEW* 1080–1081 (**tēu-*); Wat 71 (**teuə-*); Buck 11.26; BK 104 (**t[h]aw-/*t[h]əw-*)]. ORus *tyju* 'become fat', Grk σάος ~ σῶς (< **tu̯h$_a$u̯os*) 'safe and sound, healthy', σῶμα 'body', Av *tav-* 'be capable of', *tavah-* 'strength, power', OInd *tāvīti* 'is strong, powerful', *tavás-* 'strong, powerful; strength', *taviṣá-* 'strong'. Cf. the word for 'thousand' in Germanic, Baltic, and Slavic: ON *þūs(h)und*, OE *þūsend* (> NE *thousand*), OHG *dūsunt*, Goth *þūsundi*, OPrus *tūsimtons*, Lith *túkstantis*, Latv

tûkstuots, OCS *tusęšta*, all from **tuh$_a$s-k̂m̥to-* 'fat hundred' or 'strong hundred', and TochA *tmām̥* 'ten thousand', TochB *tumane* 'ten thousand'. Widespread and old in IE.

***bhleu-** 'swell, overflow'. [*IEW* 158–159 (**bhleu-*); Wat 9 (**bhleu-*); BK 10 (**bul-/*bol-*)]. Lith *bliaũju* 'roar, bleat, low', OCS *bljują* 'spew, vomit', Grk *φλέω* 'gush, teem, overflow', *φλοίω* 'overflow with words, talk idly'. From the enlarged **bhleud-* we have Grk *φλυδάω* 'have an excess of moisture', TochAB *plätk-* 'arise, develop, swell, overflow', TochA *plutk-* 'arise, develop, swell, overflow'. From an enlarged **bhleug-* we have Lat *fluō* 'flow', *flūmen* (< **bhleugsmen-*) 'river', *fluvius* 'river', Grk *φλύζω* 'boil up, boil over'. Reasonably well-attested geographically; certainly old in IE.

***bhelĝh-** 'swell'. [*IEW* 125–126 (**belĝh-*); Wat 7 (**bhelgh-*); BK 10 (**bul-/*bol-*)]. OIr *bolgaid* 'swells' (this verb is possibly denominative), ON *bolginn* 'swollen', *belgja* 'make swell', OE *belgan* 'be angry', OHG *belgan* 'swell up'. Though only attested as a verb in Germanic, its derivative **bhólĝhis* 'bag' is to be found the length and breadth of the IE world and thus the verb itself must be old in IE.

***h$_a$eid-** 'swell'. [*IEW* 774 (**oid-*); Wat 45 (**oid-*)]. Lat *aemidus* 'swollen, protuberant' (the second and third syllables of this word are modeled after *tumidus* of the same meaning), OHG *eiz* 'abscess', *eittar* 'pus', Grk *οἰδέω* 'swell', *οἶδμα* 'swelling', *Οἰδίπους* 'Oedipus' (lit. 'swollen-foot'), Arm *aytnum* 'swell', *ayt* 'cheek'. This word is certainly to be found in only these three stocks where its presence is sufficient to guarantee that it was a word of at least the west and center of the IE world. More speculatively one might add OCS *jadŭ* 'poison' (< *'abscess' or 'pus'?) and/or, with a nasal infix, OInd *índu-* 'drop (of water)' and *Indra* 'Indra' (as the one 'swollen with power' or the like).

***bhreus-** 'swell'. [*IEW* 170–171 (**bhreu-s-*); Wat 9 (**bhreus-*); BK 4 (**bar-/*bər-*)]. Only found in nominal derivatives: OIr *brū* (< **bhrusō(n)*) 'belly, breast', *bruinne* (< **bhrusnio-*) 'breast', Wels *bru* (< **bhreuso-*) 'belly', *bron* (< **bhrusneh$_a$-*) 'breast', ON *brjóst* 'breast', OE *brēost* 'breast' (> NE *breast*), OHG *brust* 'breast', Goth *brusts* 'breast', Rus *brostĭ* 'bud', *brjukh* (< **bhreuso-*) 'belly, paunch'. A word of the west and center of the IE world.

See also ABDOMEN; BAG; BREAST. [D.Q.A.]

SWIM

sneh$_a$-** 'swim' (pres. ***snéh$_a$ti). [*IEW* 971–972 (**snā-*); Wat 62 (**snā-*); Buck 10.35]. OIr *snaïd* (*DIL snāid*) 'swims', Lat *nō* 'swim', Grk *νήχω* 'swim', Av *snayeiti* 'washes', OInd *snâti* 'bathes', TochB *näsk-* 'bathe, swim'. Widespread and old in IE.

***pleu-** 'float, swim; wash'. [*IEW* 835–837 (**pleu-*); Wat 52 (**pleu-*); GI 587 (**p^{h}leu-*); Buck 10.34]. OIr *luïd* 'moves', Lat *pluit* 'it's raining', *perplovere* 'rain through; admit rain', OE *flōwan* 'overflow' (> NE *flow*), OHG *flouwen* 'wash', OCS *plovą* 'flow', Grk *πλέ(ϝ)ω* 'swim', Arm *luanam* 'wash', Av *us-frāvaya-* 'swim away', *fra-frāvaya-* 'swim toward', OInd *plávate* 'swims', *plāvayati* 'causes to swim, bathes, submerges', TochAB *plu-* 'soar', TochB *plus-* 'float'. Widespread and old in IE.

?*su̯em- 'swim'. [*IEW* 1046 (**su̯em-*); Wat 68 (**swem-*); Buck 10.35]. OIr *do-seinn* (if < **-su̯em-d-ne/o-*) 'moves', Wels *chwŷf* 'movement', ON *svi(m)ma* ~ *symja* 'swim', *svamla* 'splash', OE *swimman* 'swim' (> NE *swim*), OHG *swimman* 'swim', Goth *swumfsl* 'pool'. Widespread in Germanic and possibly attested in Celtic. Not certainly PIE in date and, if so, only as a western dialectal term.

See also BOAT; CLEAN; DIVE; WADE. [D.Q.A.]

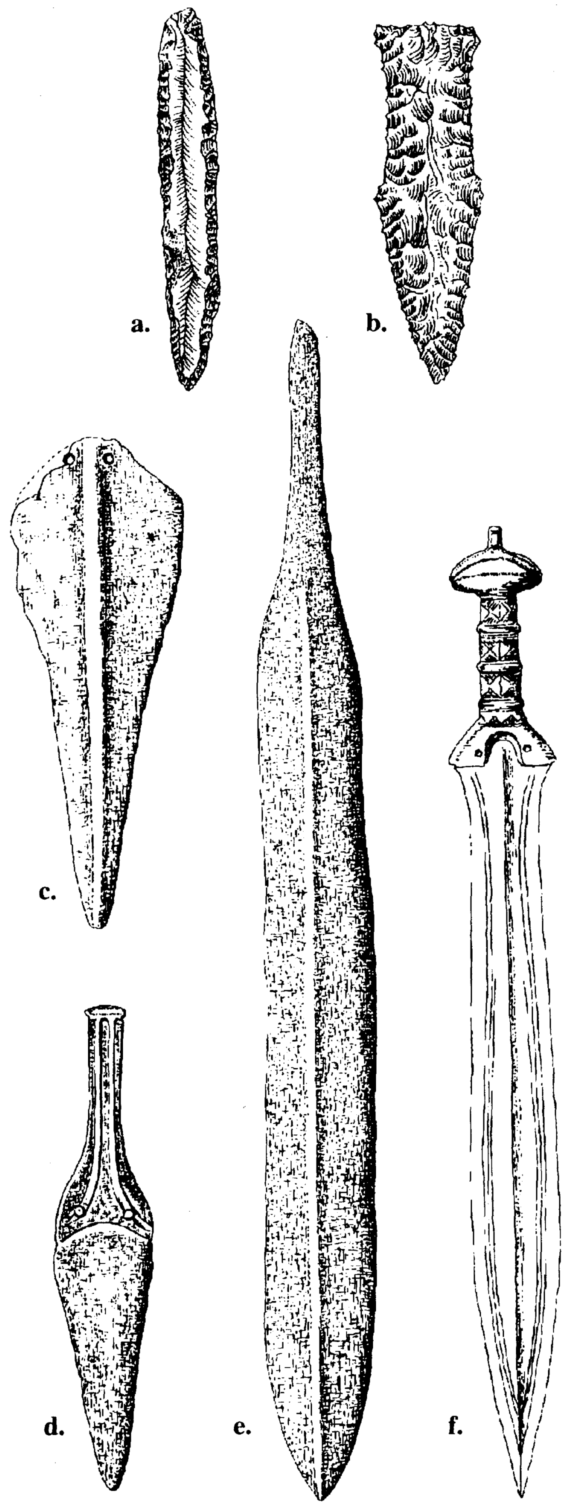
SWORD

***h$_{2/3}$n̥sis** 'large (offensive) knife, dagger, ?sword'. [*IEW* 771 (**n̥si-s*); Wat 45 (**n̥si-*); GI 643 (**n̥si-*); Buck 20.27]. Lat *ēnsis* 'sword', Palaic *hasīra-* 'dagger', Av *aŋhū-* 'sword', OInd *así-* 'sword, slaughtering knife'; sometimes Grk *ἄορ* 'sword' is also attributed to this series (< **h$_{2/3}$n̥sor*) but it is more likely to derive from **sm̥-su̯or* 'hang', i.e., hang at the warrior's side as also Germanic **swerđa-z* 'sword, that which hangs' (ON *sverð*, OE *sweord* [> NE *sword*], OHG *swert*). The geographical distribution and the rare zero-grade *i*-stem suggests PIE antiquity for the form; the earliest attested form in Palaic probably indicates the earliest meaning of this word.

?*skolmeh$_a$- 'sword'. [*IEW* 923–925 (**skol-mā*)]. ON *skǫlm* 'sword', Thracian *σκάλμη* 'sword, knife'. Though confined to only two stocks, the meaning and form match exactly. Perhaps a late word of the IE west, perhaps a borrowing from one stock to another at an early age.

P. Thieme rejected the Latin-Old Indic cognate set as independent parallel developments from **h$_{2/3}$n̥si-* 'black' (i.e., the iron one) > 'sword' but the phonological and semantic agreement across the cognate terms is too strong to be so easily dismissed and the Palaic word underwrites the antiquity of this word in PIE. The problem rests with the semantic agreement since metallic swords are not commonly known in Eurasia prior to the later Bronze Age, i.e., c 2000–1500 BC, and, therefore, we have a reconstructed meaning that should not have come into existence until after the divergence of the Indo-European languages. Thus the underlying meaning was more likely to have been 'large knife' or 'dagger'. The possibility of the term denoting a dagger is strengthened by the Palaic derivative which means 'knife', and subsequent semantic developments in historically attested IE languages, e.g., OInd *śástra-* 'knife, sword, weapon' (< **k̂es-* 'cut').

Metal knives which may be identified as possible offensive weapons are known from southeast Europe before 3500 BC and by the period *c* 3300–2900 BC daggers are well known in eastern Europe and the Caucasus with corresponding daggers manufactured from flint known from the same period. The earliest bronze daggers in the Aegean are generally dated to about 2900 BC. Within the European sequence by c 1800 BC the daggers are followed by rapiers, long narrow thrusting weapons, and then by slashing swords by c 1500 BC in Greece and south central Europe and later elsewhere. Asia offers somewhat earlier (*c* 2000–1500 BC) swords as copper swords with antenna hilts appear over a broad area, including the



Sword a. Flint knife from Sredny Stog culture; b. Flint dagger from Yamna culture; c. Bronze dagger of Usatovo culture; d. Bronze dagger of Yamna culture; e. Copper "sword" from Klady, Maykop culture (63.5 cm); f. Late Bronze Age Urnfield (short) sword (50 cm.).

BMAC and the Copper Hoard culture of India. But if they must be assigned to the continuum of IE evolution, it is most likely that we are speaking of already differentiated Indo-Aryan or perhaps Indo-Iranian, rather than Proto-Indo-European. The most economical solution to the semantics of PIE **h*$_{2/3}$*n̥sis* then is to presume that it originally referred to the metal (or flint) daggers that emerged in the late fourth millennium BC and that the original meaning was retained in Anatolian but shifted to more technologically advanced weapons in both Italic and Indo-Aryan. In fact, the Harappan culture has yielded several copper weapons with blades in excess of 40 cm long, some form of sword may have already existed in third millennium India prior to the arrival of the Indo-Aryans (presuming that the Indus towns were pre-Indo-Aryan). In the subsequent period of the Copper Hoard culture, there are a number of long swords known from India. The sword appears in Italy during the mid second millennium BC.

Although less likely, there is the remote possibility that the original referent was actually a 'sword' rather than a dagger. The distinction here is between a short thrusting weapon and a longer slashing weapon. A unique "sword" accompanied a burial at Klady, kurgan 31, in the north Caucasus. It measured 63.5 cm long and should date to *c* 3500–3300 BC. Although this might provide a suitable archaeological "fit" for a PIE reconstruction, the absence of swords from the period between the fourth and second millennia over most of Eurasia renders the reconstruction of a PIE 'sword' less likely.

See also KNIFE; SHIELD; SPEAR; TOOL. [M.E.H., J.P.M]

Further Readings

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TAIL

u̯ólos 'tail hair (of a horse)'. [*IEW* 1139–1140 (**u̯el-*)]. Lith *valaĩ* (pl.) 'tail hair of horse', OInd *vála-* ~ *vára-* 'tail hair of a horse, horsehair'. A word of the center and east of the IE world.

puk(eh_a)- 'tail'. [*IEW* 849 (**pūk-*); Wat 53 (**puk-*)]. ON *fōa* (< **fuhō-*) 'fox', OE *fox* (< **fuhsa-*) 'fox' (> NE *fox*), OE *fyxe* (< **fuhsjōn-*) 'vixen' (oblique case *fyxen* > NE *vixen*), OHG *fuhs* (< **fuhsa-*) 'fox', *foha* (< **fuhō-*) 'vixen', Goth *faúhō* (< **fuhō-*) 'fox', Torwali *pūš* (< **pucchin-* 'having a tail') 'fox', OInd *púccha-* (< **puk-sḱo-*) 'tail', TochB *päkā-* 'tail; chowrie'. The distribution, in Germanic, Indic, and Tocharian, suggests PIE status.

See also Anatomy; Fox; Hair; Horse; Mammals; Squirrel. [D.Q.A.]

TAKE

The Indo-European languages, and apparently Proto-Indo-European itself, show a certain interchange of words for 'take' and 'give'. Certainly this is so in part at least because taking and giving are reciprocal relationships, labeling either end of a single transaction. A witness to the transaction could describe the situation using either verb, e.g., "She gave it to him", or, "He took it from her." A single verb, given the right context, may do the labeling for both, e.g., NE *take to* vs. *take from*. In addition, given that the notion of exchange (between people, between people and the gods) was apparently very important in PIE culture, it is perhaps not surprising that a given verb may show up in one stock with the meaning 'take' but in another with the meaning 'give'. Perhaps the classic instance of this phenomenon is **deh_3-* which means 'take' in Hittite but 'give' in all other stocks where it appears. It also appears that in PIE we can divide the words for 'take' into two large groups: (1) those that emphasize the physical nature of taking (grasping, taking away, seizing, etc.) and (2) those that center on the social nature of the transaction.

Physical Taking

$h_1$ep- 'take, seize'. [*IEW* 50–51 (**ap-*); GI 187 (**ep^h-*)]. Alb *jap* (< **$h_1$epi̯e/o-*) 'give', Arm *unim* (< **$h_1$opn-*) 'possess', Hit *epzi* 'takes', *appala-* 'snare', *appatariya-* 'seize (as a pawn to compel payment of debt), take in pledge, distrain', Av *apayeiti* (< **$h_1$opei̯e/o-*) 'obtains', OInd *āpnóti* 'obtains', TochA *ype* 'land, country', TochB *yapoy* (pl. *ypauna*) 'land, country' (Toch < **$h_1$ep-o-u̯en*, pl. **$h_1$ep-o-uneh_a* '± dominion'). Widespread and old in IE. Its probable derivative **$h_1$op-* 'desire' is also found widely. This is likely to be the oldest word for 'take, seize' that can be reconstructed for PIE.

kap- 'seize'. [*IEW* 527–528 (**kap-*); Wat 27 (**kap-*); GI 125 (**k^hap^h-*); Buck 11.13; BK 242 (**k[^{h}]ap[^{h}]-/*k[^{h}]əp[^{h}]-*)]. OIr *cāin* 'law, tribute', Lat *capiō* 'take', ON *hafa* 'have', *hefja* 'lift', OE *habban* 'have' (> NE *have*), *hebban* 'lift' (> NE *heave*), OHG *habēn* 'have', *heffan* 'lift', Goth *haban* 'have, hold', *hafjan* 'lift', Latv *kàmpju* 'seize', Alb *kap* 'catch, grab, seize', Grk ***κάπτω*** 'gulp down', OInd (dual) *kapaṭī* 'two handfuls'. Widespread and old in IE.

ghabh- 'take, seize'. [*IEW* 407–409 (**ghabh-*); Wat 20 (**ghabh-*); GI 125 (**g^hab^h-*); Buck 11.13]. OIr *gaibid* 'takes', Corn *cafos* 'have', Lat *habeō* 'have', perhaps Goth *gabei* 'riches' (if not related to *give*), Lith *gabenù* 'present', Pol *gabać* 'seize', OInd *gábhastin-* 'hand'. Widespread and old in IE.

ghrebh- 'grasp, take, enclose'. [*IEW* 455 (**ghrebh-*); Wat 23 (**ghrebh-*); GI 42–43]. MDutch or MHG *grabben* 'seize' (borrowed > NE *grab*), OHG *garb* 'sheaf', Lith *grébiu* 'rake', Latv *grebju* 'seize', OCS *grabnǫti* 'grope', *grabiti* 'snatch up', *grebǫ* 'paddle', Rus *grebú* 'paddle', Hit *k(a)rap-* 'devour', Av

gərəwnāiti 'takes', OInd *gr̥bhnā́ti* 'grabs'. With apparent PIE **-b-* rather than **-bh-* are ON *grāpa* 'snatch', OE *græppian* 'snatch'. Widespread and old in IE.

ghreib- 'grip' (pres. ***ghréibe/o-*** and ***ghroibheha-***). [*IEW* 457–458 (**ghreib-*); Wat 23 (**ghreib-*); Buck 11.57; BK 222 (**gar-/*gər-*)]. ON *grīpa* 'seize, take', *greipa* 'grope, touch', OE *grīpan* 'seize, take' (> NE *gripe*), *grāpian* 'grope, touch' (> NE *grope*), OHG *grīfan* 'touch, take hold of', *greifōn* 'grope, touch', Goth *greipan* 'seize', Lith *griẽbti* 'seize', *graĩbo* 'seizes (repeatedly)', Latv *greîbt* 'seize', *gribêt* 'desire' (< *'be grasping'). Though limited to only Germanic and Baltic this extension of (unattested) **gher-* 'grasp' (but note OInd *hárati* [< **ĝher-*] 'takes, carries, holds'), otherwise seen also in **ghrebh-*, has, because of the exact double morphological equation in Germanic and Lithuanian, a good chance of being at least a late PIE word.

h₁rep- 'snatch, pluck'. [*IEW* 865 (**rep-*); Wat 54 (**rep-*); Buck 11.14]. Lat *rapō* 'snatch away, carry off, plunder', Lith *ap-rẽpti* 'seize, embrace', Alb *rjep* ~ *rrjep* 'flay, rob', Grk **ἐρέπτομαι** 'browse on, feed on' (< *'pluck'). A word of the west and center of the IE world.

la(m)bh- 'seize, take into one's possession'. [*IEW* 652 (**labh-*); Buck 11.13; BK 588 (**lab-/*ləb-*)]. OPrus *labs* 'good', Lith *lõbis* 'possessions, riches', *lõbti* 'become rich', *lābas* 'goods; good', Latv *labs* 'good', Grk **λαμβάνω** (with somewhat obscure *-β-*, rather than *-φ-*) 'seize, take', **λάφυρον** 'booty', OInd *lámbhate* ~ *lábhate* ~ *rábhate* 'seizes, takes', *lābha-* 'acquisition, profit', *rábhas-* 'impetuosity, violence'. At least a word of the center and east of the IE world.

ghe(n)dh- 'seize, take in (physically or mentally)' (pres. ***ghe(n)d(i̯)e/o-***). [*IEW* 437–438 (**ghendh-*); Wat 22 (**ghendh-*); BK 226 (**gat'-/*gət'-*)]. OIr *ro-geinn* (< **ghendne/o-*) 'finds a place in', Wels *gannaf* 'finds a place in', Lat *pre(he)ndō* (< **prae-hendō*) 'grasp', ON *geta* 'attain, produce, guess', *gāta* 'riddle', OE *(be-)gietan* 'receive, produce', *forgietan* 'forget' (> NE *forget*), *be-ginnan* (< **ghendne/o-*) 'begin' (> NE *begin*), OHG *pi-gezzan* 'uphold', *fir-gezzan* 'forget', *biginna* 'begin', Goth *bi-gitan* 'find', *du-ginnan* 'begin', Lith *godóti* 'guess, suppose', OCS *gadati* 'imagine, guess', Rus *gadatĭ* 'guess, imagine', *za-gád-ka* 'riddle', Alb *gjej* (< **ghedni̯e/o-*) 'find, obtain', Grk **χανδάνω** 'take in, comprise'. Widespread in the west and center of the IE world; certainly old there.

h₁em- 'take, distribute'. [*IEW* 310–311 (**em-*); Wat 17 (**em-*); GI 657 (**em-*); Buck 11.11, 11.13; BK 426 (**im-/*em-*)]. OIr *ar-foīm* 'take', Lat *emō* 'take', OPrus *imt* 'take', Lith *imù* 'take', Latv *jęmu* 'take', OCS *imǫ* 'take'. At least a word of the northwest of the IE world.

kagh- 'catch, grasp'. [*IEW* 518 (**kagh-*); Wat 26 (**kagh-*)]. Wels *cau* 'close, clasp', Lat *cōlō* (< **caholō*) 'tend, take care of', Osc *kahad* 'may he seize', ON *hagi* 'meadow', OE *haga* 'hedge, garden', OHG *hag* 'hedge', Alb *kam/ke* (< **kaghe/o-*) 'have/has, hold(s)'. A word of the IE west and center.

sel- 'seize, take possession of'. [*IEW* 899 (**sel-*); Wat 57 (**sel-*); BK 164 (**s'il^y-/*s'el^y-*)]. OIr *selb* 'possession', Wels *helw* 'possession' (Celtic < **selu̯o-*), ON *selja* 'hand over, deliver', OE *sellan* 'hand over, deliver' (> NE *sell*), OHG *sellen* 'hand over, deliver', Goth *saljan* 'sacrifice', Grk **ἑλεῖν** 'take', **ἕλωρ** 'booty'. A word of the west and center of the IE world.

tu̯er- 'take, hold'. [*IEW* 1101 (**tu̯er-*); Wat 72 (**twer-*); Buck 11.11]. OPrus *turīt* 'have; have to', Lith *tveriù* 'seize, take hold of', *turiù* 'have, hold', Latv *tveŗu* 'grip, seize, hold', *turu* 'have, hold', OCS *tvorŭ* 'form', *tvoriti* 'shape, make', Grk **σειρά** (< **tu̯eri̯eha-*) 'band, bond', **σορός** 'urn'. A word largely confined to the center of the IE world.

?*dergh- 'grasp'. [*IEW* 212–213 (**dergh-*); Wat 12 (**dergh-*); BK 124 (**t'ar^y-/*t'ər^y-*)]. MIr *drem(m)* (< **dreghsmo-*) 'troop, band of people', ON *targa* 'shield', OE *targe* 'small shield, buckler', OHG *zarg* 'edge, border', Grk **δράσσομαι** 'lay hold of, grasp with the hand', **δράξ** 'handful', **δραχμή** 'drachma', Arm *trc'ak* (< **dorgh-so-*) 'bundle of brushwood'. If all these words belong together, a likely word of the west and center of the IE world.

?*(s)lagʷ- 'take, hold' (pres. ****(s)lagʷi̯e/o-***). [*IEW* 958 (**(s)lăgᵘ-*); Wat 61 (**(s)lagʷ-*)]. OE *læccan* 'take, hold, latch' (> NE *latch*), Grk **λάζομαι** 'take, hold'. Sparsely attested but the exact morphological match suggests at least a late PIE date.

Social Taking

nem- 'take/accept legally' (pres. ***néme/o-***). [*IEW* 763–764 (**nem-*); Wat 44 (**nem-*); GI 656 (**nem-*); Buck 11.13]. OIr *nem* 'gift', ON *nema* 'take, get, learn', OE *niman* 'take', OHG *neman* 'take', Goth *niman* 'take (away), accept, receive', *arbi-numja* 'heir', Lith *núoma* 'rent, lease', Latv *nuõma* 'rent, lease', *ņemt* 'take', Grk **νέμω** 'distribute, possess', **νομή** 'distribution; pasture', **νόμος** 'law', **κληρονόμος** 'heir', **νωμάω** 'share', **νεμέτωρ** 'dispenser of justice, judge', **νέμεσις** 'righteous anger, retribution', Av *namah-* 'loan'. Widespread and old in IE. The word appears to have emphasized the legal notions underlying the PIE concern with the exchange of goods among members of the community.

deḱ- 'take, accept graciously or properly' (the only present that is reflected in more than one stock is ***dóḱei***). [*IEW* 189–191 (**deḱ-*); Wat 10–11 (**dek-*); GI 95 (**t'eḱʰ-*); BK 132 (**t'ak[ʰ]-/*t'ək[ʰ]-*)]. Lat *decet* 'it is proper', *doceō* 'seem, appear', *decus* 'proper order, behavior', OE *teohhian* 'determine, consider; think, propose', *tēon* 'produce, adorn; establish, appoint', OHG *gi-zehōn* 'bring to order', Goth *tēwa* (< **dēḱu̯ó-*) '(proper) order', *ga-tēwjan* 'appoint', OCS *dešǫ* 'find', ORus *dositi* 'find', Grk **δέκομαι** (Attic **δέχομαι**) 'take, accept; receive well or graciously; expect', **δοκέω** 'think, imagine; seem; appear to be someone of repute', Hit *takki* 'is the same as', OInd *dāśnóti* ~ *dāṣṭi* ~ *dā́śati* 'brings an offering', *dákṣati* 'is doughty, able'. Widespread and old in IE. It was apparently the word for an important concept of social intercourse, whether between person and person or person and god, emphasizing the proper manner by which gifts and prestations were given and received.

See also EXCHANGE; GIVE; HONOR; RIGHT. [D.Q.A.]

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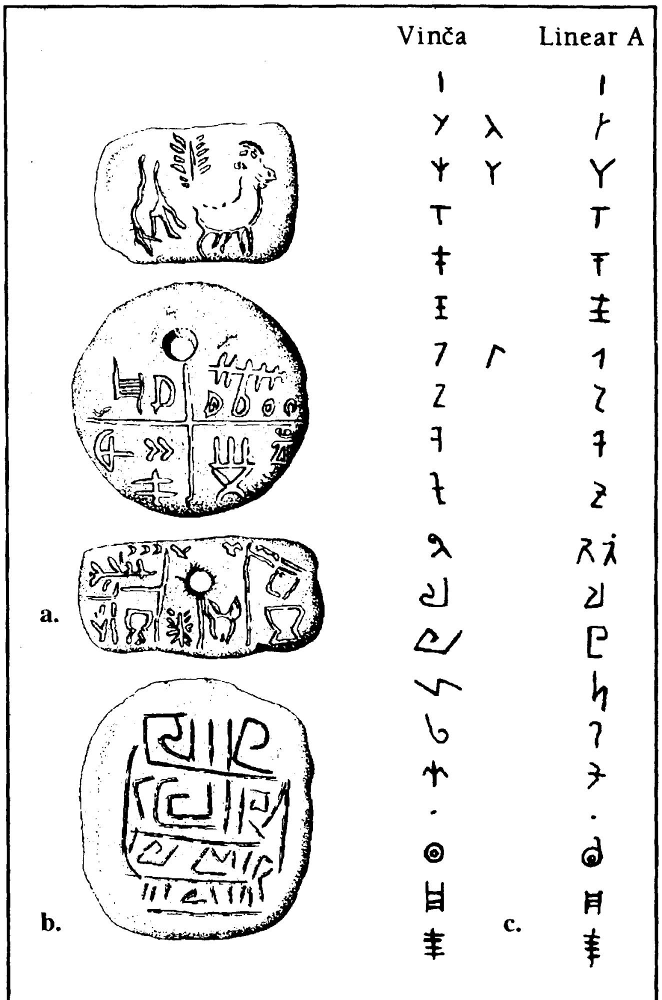
TAME

demh$_x$- 'subdue, especially break a horse' (pres. ***dm̥néh$_x$ti*** ~ ***domh$_x$eh$_a$ti***). [*IEW* 199-200 (**domə-*); Wat 11 (**demə-*); GI 179-180; BK 125 (**t'am-/*t'əm-*)]. OIr *damnaid* 'binds, breaks a horse', *dam* 'ox', Lat *domō* 'break, tame', ON *temja* 'tame', *tamr* 'tame', OE *temian* 'tame', *tam* 'tame' (> NE *tame*), OHG *zemmen* ~ *zamōn* 'tame', *zam* 'tame', Goth *gatamjan* 'tame', Grk *δάμνημι* ~ *δαμνάω* 'break', *δμώς* 'slave (taken in war)', Hit *damaszi* 'presses, pushes', NPers *dām* 'tamed animal', Oss *domyn* 'tame', OInd *dāmyáti* 'is tame; tames', *damáyati* 'subdues'. Widespread and old in IE. Cf. the widespread agent noun **domh$_x$tor-*: Lat *domitor* 'tamer', Illyrian *Domator* (personal name), Grk *παν-δαμάτωρ* 'all-conquering', OInd *damitār-* '(horse) breaker'. As taming is actually the training of an animal for a household, the stem **domh$_a$-* is traditionally explained as the *o*-grade of the root **dem(h$_a$)-* 'build' as in Lat *domus* 'house'. On the other hand, Benveniste argued that the verbal root had nothing to do with the word 'to build' or the terms for 'house'.

See also BUILD; HORSE. [E.C.P.]

TĂRTĂRIA TABLETS

A Neolithic settlement in Romania, Tărtăria yielded the two main phases of the Balkan Vinča culture which were covered by a layer attributed to the early Bronze Age (Cernavoda III, Coţofeni, Ezero cultures). The importance of the site lies in the discovery of a pit which contained human remains, twenty-six Vinča figurines, two alabaster figurines, a shell bracelet, and three clay tablets inscribed with signs and figures. These "Tărtăria tablets" have been the center of numerous inconclusive controversies concerning their origins, date, specific archaeological context, and interpretation. Their excavator attributed them to a pit dug from the earlier Vinča layer and, on the basis of their similarity with early clay tablets in Mesopotamia, he dated them to *c* 2900–2700 BC. It was argued by a number of scholars that the tablets indicated distant connections with the Mesopotamian world (or more proximate world of Crete) during the early third millennium BC. The absolute date of the early Vinča culture, however, is now reliably established on the basis of radiocarbon dating which would set it to the period *c* 5000–4500 BC. This date completely upsets prior interpretations in that it requires the tablets from Romania to predate the evidence of writing in the Near East by nearly two millennia. Some have accepted both the association of the tablets with the Vinča culture and its absolute dates and suggested that writing first developed in southeastern Europe and then spread from there to the Near East. Others have argued that the tablets derived from a pit that was initially dug from a higher level, i.e., the early Bronze Age level, which would move them in date to *c* 3000 BC and allow one to retain some form of connections with



Tărtăria a. The three Tărtăria tablets; b. Gradešnica plaque, Bulgaria; c. Graphic "signs" from Vinča sources and the Linear A script.

the Aegean or Mesopotamia.

The Tărtăria tablets, irrespective of their specific chronological position (or even their authenticity which has also been challenged), are but a single example of a much more widespread tradition of signs found on pots, spindlewhorls and figurines which may unequivocally be dated to the Neolithic period of southeast Europe, i.e., before the appearance of writing in the Near East. There have been attempts to "systematize" the various signs (the Vinča culture has yielded over two-hundred different "signs") and to compare them with Bronze Age scripts of the Aegean, e.g., Linear A, the Cretan syllabary. These attempts often proceed from the presumption that the signs do represent a language and that that language was an indigenous non-IE language spoken in the Balkans. Other than the obvious problems with the assumptive nature of this line of argument, controversy also concerns the conditions, social and economic, under which a society might have developed a script and whether these conditions obtained

in the Neolithic of southeast Europe. However one wishes to resolve any of these numerous issues, it seems probable that the Tărtăria tablets and related Neolithic "documents" provide us with our earliest potential graphemic system for the peoples of Europe; that we will ever be able to identify their language much less read these signs (presuming that they are indeed graphemic) is another matter altogether.

[J.P.M.]

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TASTE

ĝeus- 'taste, enjoy'. [*IEW* 399–400 (**ĝeus-*); Wat 20 (**geus-*)]. OIr *do-goa* 'choose', Lat *dēgūnō* ~ *gustō* 'taste', ON *kjōsa* 'choose', OE *cēosan* 'choose' (> NE *choose*), Goth *kiusan* 'test', perhaps Alb *desha* 'loved', Grk *γεύομαι* 'taste', *γεύω* 'give a taste of', Av *zaoš-* 'be pleased', OInd *juṣáte* ~ *jóṣati* 'enjoys'. Cf. the widespread derivatives: (1) **ĝustis* 'taste' in OE *cyst* 'choice', Goth *ga-kusts* 'test', OInd *júṣṭi-* 'favor'; (2) **ĝustus* in OIr *guss* 'excellence', Lat *gustus* 'tasting', ON *kostr* 'selection', OE *cost* 'choice, excellence', OHG *kost* 'estimate, selection', Goth *kustus* 'test'. Reasonably widespread and surely old in IE.

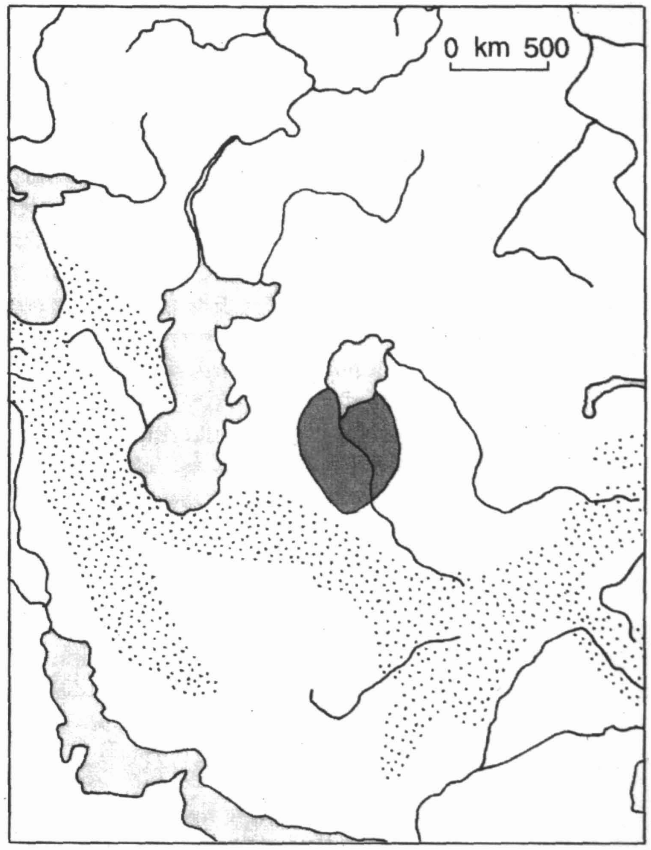
su̯eh$_a$de/o- 'be tasty, please'. [*IEW* 1040 (**su̯ād-*); Wat 67 (**swād-*); cf. GI 100 (**swāt'-*)]. Grk *ἥδομαι* 'rejoice', OInd *svádate* '± becomes savory'. Cf. Grk *ἡδονή* 'pleasure', OInd *svádanam* 'making tasty'. The underlying verb is attested only in Greek and Old Indic but the derived adjective **su̯eh$_a$dús* 'sweet' is practically universal. Old in IE.

?*sap- ~ ?*sep- '± taste, come to know'. [*IEW* 880 (**sap- ~ *sab-*); Wat 58 (**sep-*); Buck 15.32]. Lat *sapiō* 'taste of, savor of', *sapiēns* 'wise, knowing, sensible', Osc *sipus* (< **sēp-us-*) 'knowing', ON *sefi* 'sense', OE *sefa* 'understanding', OHG *int-seffen* 'taste', perhaps Arm *ham* (< **sapno-?*) 'juice, taste'. The exact preform is unclear. Perhaps the Gmc *sefi/sefa* represent an analogical reconstruction of **sap-* and connect this word with **sap-* 'sap' seen in Lat *sapa* 'must, new wine boiled thick', ON *safi* 'sap', OHG *saf* 'sap'. If the Armenian belongs here, we have evidence for a word of the west and center of the IE world. If the Armenian does not belong, then we have only evidence for a late dialectal word of the west.

?*smeg- 'taste (good)'. [*IEW* 967 (**smeg(h)-*); Wat 61 (**smeg-*); Buck 15.32]. ON *smekkr* 'taste', OE *smæc* 'taste', OHG *smecken* ~ *smecchen* 'taste', Lith *smagùs* 'cheerful, joyful', *smaguriáuti* 'delight in something, nibble on, have a sweet tooth'. A late dialectal word in IE confined to the northwest.

See also EAT AND DRINK; FAVOR; PERCEIVE; PLEASE; SWEET.

[D.Q.A.]



Tazabagyab Distribution of the Tazabagyab culture.

TAZABAGYAB CULTURE

The Tazabagyab culture (*c* 1500 BC) is a variant of the Andronovo culture that occupied the region south of the Aral Sea on the lower Amu-Darya. Unlike the typical Andronovo groups of the steppe and forest-steppe who appear to have been largely pastoralists, Tazabagyab settlements seem to have been based on small-scale irrigation agriculture. Settlements, of which about fifty have been discovered, contained semi-subterranean houses of considerable dimensions (10 x 10 m or more) built of clay and reeds supported by timber posts. The population of these small villages is set to about a hundred or less. The remains of horse are found on settlements as well as figurines of horses. Tazabagyab cemeteries recognized the right:male left:female dichotomy in burial position that is occasionally encountered among other putatively Indo-European groups, e.g., the Bishkent, Swāt, and Vakhsh cultures. The metal objects have their best parallels with both early Andronovo material of Kazakhstan and Srubna material from the Volga region Their ceramics are found widely over Central Asia during the Namazga VI period when there was a regional contraction of urbanism. The culture is commonly regarded as the result of an expansion of steppe pastoralists from the north into Central Asia where they settled down in small agricultural communities. The direction of their spread was

apparently northwest to southeast and Tazabagyab material is found over a wide area. They are usually taken to be associated with some phase of the expansion of Indo-Iranian-speaking populations.

See also ANDRONOVO CULTURE; INDO-IRANIAN LANGUAGES; NAMAZGA. [J.P.M.]

TEACH

dens- 'teach, inculcate a skill'. [*IEW* 201 (**dens-*); Wat 11 (**dens-*); BK 155 (**t'^{y}an-/*t'ən-*)]. Grk **διδάσκω** (< **di-dn̥s-sk̑e/o-*) 'teach', **δέδαε** 'taught', Av *dīdaiŋhē* 'am instructed'. Cf. certain nominal derivatives: (1) **dn̥srós* '± accomplished' in Av *daŋra-* 'skilled, clever', OInd *dasrá-* 'miraculous', and perhaps Grk **δάειρα** '± knowing one' as an epithet of Persephonē; (2) **dénses-* '± teaching' in Grk (pl.) **δήνεα** 'counsels, plans, arts', Av *daŋhah-* 'skill, versatility', OInd *dáṃsas-* 'marvelous act'. This word is limited to the southeast of the IE world.

See also LEARN. [D.Q.A.]

TEAR[1]

$h_2$ék̑ru (gen. ***h_{2e}k̑réus***) 'tear'. [*IEW* 23 (**ak̑ru*), 179 (**dak̑ru-*); Wat 10 (**dakru-*); GI 715–716 (**t'ak̑^{h}ru-*)]. Lith *ašarà* 'tear', Latv *asara* 'tear', Hit *ishahru-* (< **s-$h_2$ék̑ru*, with **h_2...k* > **h_2...h_2*) 'tear', Av *asrū-* 'tear', OInd *áśru-* 'tear', TochA *ākär* 'tear', TochB *akrūna* (pl.) 'tears'. Related is **d$h_2$ék̑ru* 'tear': OIr *dēr* 'tear', Wels *deigr* ~ *deigryn* 'tear', OLat *dacruma* 'tear', Lat *lacrima* 'tear' (it is possible that the Latin words are actually loanwords from Greek), ON *tār* 'tear', OE *tēar* (Northumbrian *tæhher*) ~ *teagor* 'tear' (> NE *tear*), OHG *zahar* 'tear', Goth *tagr* 'tear', Grk **δάκρυ** ~ **δάκρυον** ~ **δάκρῡμα** 'tear'. This **d$h_2$ék̑ru* is from **$h_2$ék̑ru*, either because of the presence of a prefix **d-* or because of misdivision in such phrases as **tod $h_2$ék̑ru* 'this tear'. Further complications are seen in OHG *trahan* (< **drak̑nu-* < **drak̑ru-*) 'tear' and Arm *artawsr* (pl.) *artasuk'* 'tear'. Though showing phonological complexities, it is essentially pan-IE in distribution and surely PIE in age.

See also ANATOMY; EYE. [D.Q.A.]

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TEAR[2]

u̯el(h_2)- 'strike, tear at'. [*IEW* 1144–1145 (**u̯el-*); GI 413 (**u̯el-*); BK 485 (**wal-/*wəl-*)]. Lat *vellō* 'pluck, tear', *volnus* 'wound', ON *valr* 'corpse on the battlefield' (cf. *Valhalla, Valkyrie*), OE *wæl* 'battlefield', OHG *wal* 'battlefield', Goth *wilwan* 'rob', *wulwō* 'booty', Grk **οὐλή** 'wound scarred over', Hit *walh-* 'strike, attack', *walli-* 'plucked', HierLuv *wal(a)-* 'die', TochA *wäl-* 'die'. Widespread and old in IE.

der- 'tear off, flay'. [*IEW* 206–208 (**der-*); Wat 12 (**der-*); GI 612 (**t'er-*); Buck 9.21, 9.27, 9.28; BK 116 (**t'ar-/*t'ər-*)]. OE *teran* 'tear' (> NE *tear*), OHG *zeran* 'tear', Goth *dis-tairan* 'tear apart', Lith *dirìu* 'flay', OCS *derǫ* 'flay', Grk **δέρω** 'skin, flay', Arm *terem* 'flay, strip bark', Av *darədar-* 'split', OInd *dr̥ṇā́ti* 'causes to burst, tears', TochAB *tsär-* 'separate'. Widespread and old in IE.

drep- 'scratch, tear'. [*IEW* 211 (**drep-*); BK 117 (**t'ar-ap[^{h}]-/*t'ər-ap[^{h}]-*)]. Rus *drjápati* (with secondary *-j-*) 'scratch, tear', SC *drápati* 'tear up, wear down', Pol *drapać* 'scratch, shave, rub; run away' (Proto-Slavic **drā́pā-*), Grk **δρέπω** 'pluck', **δρέπανον** 'sickle', TochA *räp-* 'dig', TochB *räp-* 'dig' (PIE **dr-* > Toch *r-* is regular). The Proto-Slavic infinitive **drā́pāti* is the exact match of the Tocharian B infinitive *rāpatsi*. Probably belonging here are Hit *tēripzi* '± plows, tills', HierLuv *tarrappunas* 'of plowing' (< Proto-Anatolian **Térep-* < **Trep-*), though the Anatolian forms have also been related to PIE **trep-* 'turn'. An extension of **der-* 'split'. The agreement of Slavic, Greek and Tocharian guarantees this word's PIE status. If the Anatolian words also belong, we have evidence for something old in IE.

rendh- 'rend, tear open'. [*IEW* 865 (**rendh-*); Wat 54 (**rendh-*); Buck 9.28]. OE *rendan* 'rend, tear' (> NE *rend*), *rind(e)* 'rind, crust' (> NE *rind*), OHG *rinta* 'rind, crust', OInd *rándhram* 'opening, split, hole'. Its geographical distribution suggests PIE status despite the modest number of stocks that attest it.

reu(h_x)- 'tear out, pluck'. [*IEW* 868–870 (**reu-*); Wat 55 (**reu-*); BK 601 (**ruw-/*row-*)]. MIr *rūam* 'spade', Lat *ruō* 'tear off; fall violently', ON *rýja* 'pluck wool from a sheep', Lith *ráuju* 'pull out, weed', *ravė́ti* 'weed', OCS *ryjǫ* 'dig', *rŭvǫ* 'pull out', TochAB *ruwā-* 'pull out (from below the surface with violence)'. Related is **reumn-* 'horsehair, fleece'.

$h_1$reik- 'tear (off)'. [*IEW* 858 (**reik(h)-*); Wat 54 (**rei-*); Buck 9.28]. Wels *rhwygo* 'tear', OHG *rīhan* 'pull a thread', Lith *riekiù* 'cut bread', Grk **ἐρείκω** 'break, tear', OInd *rikháti* (with expressive *-kh-* rather than the expected *-k-*) 'scratches'. Reasonably widespread in its geographical distribution; certainly old in IE.

$h_1$reip- 'tear'. [*IEW* 858–859 (**reip-*); Wat 54 (**rei-*); Buck 9.28]. Lat *rīpa* 'bank (of a river), shore (of the sea)' (< *'where the water tears into or erodes the land'), ON *rīfa* 'tear out', Grk **ἐρείπω** 'dash down, tear down', (pl.) **ἐρίπναι** 'broken cliff, crag, overhang, sheer ascent'. A word of the west and center of the IE world. Like the previous word, it is an enlargement of an unattested **$h_1$rei-*.

plek̑- '± break, tear off' (pres. ***plók̑ei***). [*IEW* 835 (**plēk̑-*); Wat 52 (**plēk-*); Buck 9.29; BK 35 (**p[^{h}]il^{y}-/*p[^{h}]el^{y}-*)]. ON *flā* 'flay', OE *flēan* 'flay' (> NE *flay*)(< Proto-Gmc **flahan-*), ON *flagna* 'peel off', Lith *plė́šiu* 'tear off', Alb *plas* (< **plok̑i̯e/o-*) 'burst, break'. A word at least of the west and center of the IE world.

leup- 'peel'. [*IEW* 690 (**leup-* ~ **leub-*); Wat 37 (**leup-*); Buck 8.56]. Lith *lupù* 'pare, peel, skin; whip; root out by digging; extort', Latv *lupu* 'pare, peel, skin', Rus *luplju*

'pare, peel, pick off', OInd *lumpáti* ~ *lopáyati* 'break, violate, hurt', *lóptra-* 'booty'. A word of the center and east of the IE world.

***lak-** 'rend, tear'. [*IEW* 674 (**lēk-*); Wat 36 (**lēk-*)]. Lat *lacer* 'worn out, lacerated', Alb *lakur* 'naked', Grk λακίς 'rent, rag, tatter', λακίζω 'rend, tear', (Hesychius) ἀπέληκα 'broke off, sundered'. A word of the west and center of the IE world.

***lep-** 'peel'. [*IEW* 678 (**lep-*); Wat 36 (**lep-*); Buck 8.56]. The underlying verb is seen only in Grk λέπω 'peel'. Nominal derivatives are to be found in OE *lōf* 'head band', Lith *lāpas* 'leaf', *lōpas* 'patch, piece', Rus *lápotĭ* 'bast-shoe', Alb *lapë* 'dewlap of an ox'. A word of the west and center of the IE world.

See also Hair; Line; Scrape; Tendon; Textile Preparation. [D.Q.A.]

TENCH

?*(s)lei- 'tench (*Tinca tinca*)'. [*IEW* 663 **(s)lei-*); cf. Wat 35–36 (**lei-*)]. OE *slīw* ~ *slēow* 'tench', OHG *slīo* 'tench', OPrus *linis* 'tench', Lith *lýnas* 'tench', Latv *līnis* 'tench', Rus *linĭ* 'tench', Grk λινεύς 'blenny'. The Baltic and Slavic are certainly instances of a common inheritance. The Greek may or may not belong here while the Germanic is surely related but an independent formation from the same root, **(s)lei-* 'be slimy'.

The geographical distribution of the tench spans Europe from the Atlantic well into Asia, including the northern portion of Anatolia. If the original referent was the 'tench', a shift to 'blenny' in Greek must have been motivated by something far from transparent as the fish bear little resemblance to one another with respect to either shape or size.

See also Fish; Snail. [D.Q.A.]

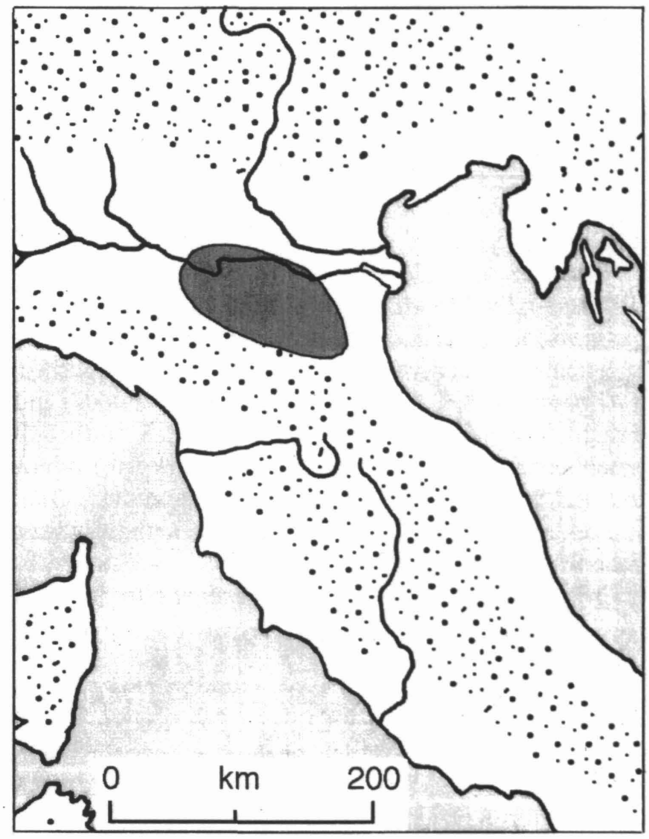
TENDON

***snéh$_1$u̯r̥** 'sinew, tendon'. [*IEW* 977 (**snēu̯-(e)r-*); Wat 62 (**(s)neəu-*); GI 716 (**sneu-r/n-*); BK 189 (**sin-/*sen-*)]. Lat *nervus* 'sinew, tendon, muscle, nerve', Grk νεῦρον 'sinew, tendon, gut', Arm *neard* 'tendon', Av *snāvarə* 'tendon', OInd *snā́van-* 'tendon', TochB *ṣñor* '± tendon'. A derivative of PIE age of **sneh$_1$(u)-* 'turn, twist'.

See also Anatomy; Muscle. [D.Q.A.]

TERRAMARE CULTURE

The middle Bronze Age (*c* 1500–1100 BC) culture of the Po Valley is known as the Terramare culture. It takes its name from the black earth (*terramare*) residue of settlement mounds which have long served the fertilizing needs of local farmers. The original settlements were often constructed on piles and developed into large mounds over time. In size they ranged up to 20 ha in size and were defended by banks and ditches. The arrangement of houses in rows might assume a grid-like pattern (such evidence was employed to associate the builders of Rome with the earlier Terramaricoli). Both inhumation and cremation was employed in burial and cemeteries might have hundreds of burials. The grave would be accompanied by



Terramare Distribution of the Terramare culture.

pottery and metal goods, among the latter bronze weapons, razors and ornaments. Earlier interpretations of this culture remarked on its introduction of cremation burials, shift of settlement location, and ceramic and metallurgical similarities to cultures of Central Europe to propose that it represented an intrusive culture which might be associated with IE movements into Italy.

See also Italic Languages. [J.P.M.]

TERRIBLE

?*garĝos 'frightening, threatening'. [*IEW* 353 (**garĝo-s*); GI 85 (**g^har-$\hat{g}^h$-*)]. OIr *garg* 'rough', OCS *groza* 'shudder, horror', Rus *grozá* 'threat', Arm *karcr* 'hard'. Lith *gražóti* 'to threaten' may be a Belorussian loanword while Grk γοργός 'terrible, frightful, savage', connected with the monstrous Gorgon, cannot be securely associated with these forms. IE status is extremely uncertain.

***saiu̯os** 'hard, sharp, rude'. [*IEW* 877 (**sāi-u̯o-*)]. Lat *saevus* 'hot-headed, raging, ferocious', Lith *šaižùs* 'sharp, hard, rough' (the Lithuanian form is assumed to reflect distant assimilation of *s* > *š* under the influence of *ž*, *viz.* < **saižus*), Latv *sievs* ~ *sīvs* 'hard, curt'. Apparently only a Latin-Baltic isogloss.

?*ghouros 'sad, pitiful'. [*IEW* 453–455 (**ghou-ro-s*)]. OHG *gōrag* 'miserable, pitiful', Goth *gaurs* 'sad, sorrowful', OCS *žurba* 'grief', OInd *ghorá-* 'terrible'. Perhaps also ON *gaurr*

'miserable person' but this is rejected by most. The Old Indic connection here is very weak and even the Germanic-Slavic connection has been doubted. Improbable IE status.

See also BAD; PAIN. [J.C.S.]

TEXTILE

Under this heading are assembled the various terms that pertain to the material of textiles.

Thread

deḱ- 'thread, hair'. [*IEW* 191 (**deḱ-*); Wat 11 (*dek-*); Buck 4.14; BK 159 (**t'ak[h]-/*t'ək[h]-*)]. ON *tāg* 'thread, fibre', MHG *zāch* (< **dēḱ(i̯eh₂)-*) 'wick', Khot *dasa-* 'thread', OInd *daśā-* 'fringe'. Other derivatives have come to mean 'hair': **doḱlo-* in OIr *dūal* 'lock of hair', OE *tæg(e)l* 'tail' (> NE *tail*), OHG *zagel* 'tail', Goth *tagl* 'a single hair', and **dēḱu̯eh₂-* in TochA *śāku* 'headhair'. This word is old in IE and probably the oldest one we can reconstruct whose meaning subsumes 'thread', particularly thread spun from wool or vegetable fibre. The creation of a thread out of the amorphous fluff of fibre provides the basis for a Greek metaphor of life and human fate as witnessed by the activities of the Greek *Moirai*, a concept subsequently borrowed in the Lat *Parcae*, and still later in the Germanic *Norns*.

gʷhihₓ(slo)- '± sinew, thread'. [*IEW* 489 (**gᵘheiə-*); Wat 25–26 (**gʷhī-*)]. (1) **gʷhihₓ(-ehₐ)-*: Wels *giau* (pl.) 'nerves, sinew', Lith *gijà* 'thread (in a warp); skein, hank (of yarn)', Latv *dzija* 'thread' (pl. 'yarn'), OCS *žica* 'sinew'; (2) **gʷhihₓ(slo)-*: Lat *fīlum* 'thread', Lith *gýsla* 'vein', Latv *dzīsla* 'vein', Arm *jil* 'cord'. This would appear to have been at least the late PIE word for thread made from animal sinew or the like, as opposed to thread from spun wool or vegetable fibres.

t(e)rm- 'thread-end'. OE *þrum* '(thread)end' (only attested in *tunge-þrum*) 'tongue-ligament' (> NE *thrum*), Grk τερμιόεις 'be-thrummed'. The apparent agreement of Old English and Greek in specializing the common PIE word **termn-* 'end' to the ends of the warp-threads, and then to fringes on clothing, may be accidental but it is possible that this specialization is of late IE date.

pe/othₐmos 'thread'. [*IEW* 824 (**pet-*); Wat 51 (**petə-*)]. ScotsGael *aitheamh* 'thread', OWels *etem* 'thread, yarn' (< Celt **etamī*), ON *faðmr* 'a measure; arms', OE *fæðm* 'outstretched arms, fathom' (> NE *fathom*), OHG *fadam* 'thread'. An isogloss of the western periphery of the IE world built from **pet-* 'stretch out', i.e., arms spread apart as in preparation of yarn.

Cloth

los- '± cloth'. [*IEW* 680 (**ləs-*)]. MHG *lasche* 'rags', Lith *lãskana* 'rags', Latv *lęska* 'rags, tatters', Rus *lóskut* 'rag' (Germanic, Baltic, and Slavic < **le/os-ko-*), Khot *r(r)aha-* 'cloth', OInd *las-pūjaní-* 'large needle' (< *'cloth-piercer'?). Not everyone would agree that all these words belong here; however, if so, the attestation in both the west and east of the IE world is a strong argument for at least late PIE status for this word.

p(e)hₐno/ehₐ or ***pāno/ehₐ-*** 'cloth'. [*IEW* 788 (**pān-*); Wat 46–47 (**pan-*); Buck 6.21]. MIr *anart* 'linen cloth', Lat *pannus* (< **pānus*?) 'piece of cloth, garment', OE *fana* 'flag' (> NE *fane*), OHG *fano* 'flag', Goth *fana* 'piece of cloth', Grk πήνη (Doric πᾶνα) 'thread on the shuttle', πηνίον 'thread of the weft', (Hesychius) πῆνος 'cloth', Roshani *warbōn* 'fur-robe, sheepskin coat' (< Proto-Iranian **vara(h)-pāna-* '± sheep(skin) coat'). It has been suggested that this lexeme, although attested in Greek as well as in the more westerly languages, is one of a number of textile terms that may have been picked up by common borrowing when the westward moving Indo-Europeans learned the art of weaving on the large warp-weighted loom from the previous inhabitants of Europe. However, the apparent existence of a cognate in Iranian would seem to make this a word of at least late IE date.

Felt

pil-so- ~ ***pil-to-*** 'felt'. [*IEW* 830 (**pi-lo-*); Wat 51 (**pilo-*); Buck 4.14]. Lat *pilleus* (< **pilsei̯o-*) 'felt' (adj.), OE *felt* 'felt' (> NE *felt*), OHG *filz* 'felt' (Gmc < **pil-to-*), OCS *plŭstĭ* 'felt', Grk πῖλος (< **pilsos*) 'felt'. From **pilos* '(a single) hair (of the human body)', cf. Lat *pilus* '(a single) hair (of the human body)', itself a variant, via sporadic unrounding of the **-u-* in a labial environment, of **pulos* '(a single) hair (of the human body)'.

Felting is the process of matting wool or hair together by a combination of pressure, warmth, and dampness into a stable fabric. Heat and moisture cause the tiny scales on the surface of the hairs to stick out; prolonged kneading when they are in this condition causes them to become inextricably interlocked. In this way is created a solid fabric without benefit of either weaving or knotting. The fact that all of these words for 'felt' are derived from **pilos* rather than **pulos* suggests that the various IE stocks having this word have borrowed it from some variety of IE which, like Latin, had **pilos* rather than **pulos*. Felting seems to have been discovered early in the third millennium BC in central Europe or on the Eurasian steppes. It is possible that the developers of the process were IE speakers of a "*pilo*-dialect"; it is also possible that speakers of a "*pilo*-dialect" borrowed the process from some non-IE group, named it, and then "lent it out", so to speak, to other IE-speaking groups.

See also CLOTHE; HAIR; TEXTILE PREPARATION. [D.Q.A., E.J.W.B.]

Further Reading

Barber, E. J. W. (1991) *Prehistoric Textiles: The Development of Cloth in the Neolithic and Bronze Ages*. Princeton, Princeton University Press.

TEXTILE PREPARATION

Here are grouped those terms associated with the manufacture of textiles.

Pluck and Comb Wool

peḱ- 'pull out (e.g., wool), comb out (e.g., wool)' (presents [1] ***péḱe/o-***, [2] ***péḱte/o-***). [*IEW* 797 (**peḱ-*); Wat 48 (**pek-*); GI 494–495 (*$*p^hek^h$-*); cf. Buck 6.91]. (1) Lith *pešù* 'pull, tear out, pluck (fowl)', *pešiaũ* 'pluck, pick (wool, oakum)', Grk *πέκω* 'comb, shear' (cf. Myc *pe-ki-ti-ra₂* [= *pektriai*] 'women wool-combers'); nominal derivatives: ON *fax* 'mane', *fær* (< **poḱes-*) 'sheep', OE *feax* '(head)hair', OHG *fahs* '(head)hair', Grk *πέκος* ~ *πόκος* '(raw) wool, fleece'; (2) Lat *pectō* 'comb', Grk *πεκτέω* 'comb, shear'; nominal derivatives: Lat *pecten* 'comb', Grk *κτείς* 'comb (in the loom); rake; pubic hair'. A word of great antiquity in IE.

pleus- '(pluck) fleece, feathers'. [*IEW* 838 (**pleus-*); Wat 52 (**pleus-*)]. Lat *plūma* 'feather', ON *flosa* 'splinter', OE *flēos* 'fleece' (> NE *fleece*), OPrus *plauxdine* 'feather-bed', Lith *plùskos* (pl.) 'hair', Latv *pluskas* (pl.) 'shaggy hair'. A word of the IE northwest.

Archaeological and palaeozoological evidence show that early sheep had coats rather like deer: mostly heavy hairs (called kemp) with a small amount of very fine underwool for winter insulation. Several thousand years of domestic inbreeding developed sheep with usable wool, which, however, molted in the spring. In order to avoid getting the bristly kemp (which molted at a different time), the wool was pulled out (cf. the meaning still of the Lithuanian verb) rather than cut. Later people learned to comb it out, a more efficient method of collection. Only in the Iron Age, with the advent of shears made of springy iron, did shearing become common —by which time sheep that did not molt were being bred. Different IE stocks have fossilized the semantics of this verb (and its derivatives) at different technological stages.

reu(hₓ)- 'pull out (from under the surface)'. [*IEW* 868 (**reu-*); Wat 55 (**reu-*); BK 601 (**ruw-/*row-*)]. OIr *rōn* 'horse's mane', NIr *rúaimneach* (< **reumenāko-*) 'long hair', Wels *rhawn* (< **reu(m)no-*) 'horse's mane', ON *rýja* 'to pull out wool from sheep', Norw *ru* 'winter wool', Lith *ráuju* 'pull, pluck, tear (out), root (out)', OCS *ryjǫ* 'dig (out)', Rus *runó* (< **reu(m)no-*) 'fleece', NPers *rōm* 'pubic hair', Sarikoli *reb* 'body-hair, fur', OInd *róman-* ~ *lóman-* 'body hair of men and animals' (Proto-Indo-Iranian **rauman-*), TochAB *ruwā-* 'pull out (from under the surface)'. Another old word in IE. Whether it is further related to the likes of Lat *ruō* 'fall with violence, rush down, go to ruin' or OInd *ru-* 'break' is doubtful.

Though only in Old Norse is the verb attested with a meaning referring to obtaining wool, it is clear through the various nominal derivatives in Celtic, Slavic and Iranian that it was used in all these groups to refer to the plucking of hair or wool for sewing or weaving.

kars- 'scratch; comb (wool)'. [*IEW* 532–533 (**kars-*); Wat 27 (**kars-*)]. Lat *car(r)ō* 'comb wool', *carmen* 'comb for wool', MDutch *harst* 'rake', Lith *karšiù* 'comb or card (wool); hatchel (flax)', Latv *kàršu* 'comb or card (wool); hatchel (flax)', OCS *krasta* 'scab, itch', Rus *korósta* 'scab, itch', OInd *kaṣati* (if < **karṣati*) 'rubs, scratches'. The usual translation 'card' for classical Latin *carrō* is an anachronism by post-fourteenth century AD scholars who didn't know that carding was invented only in the fourteenth century. No ancient piece of wool has yet been found that was carded rather than combed. In carding the fibres are fluffed crossways; in combing the fibers are made to lie parallel. These yarns have crucially different properties. It may be significant that, though the word is old in IE, the meaning 'comb (wool)' is found only in European languages.

kes- 'comb'. [*IEW* 585 (**kes-*); Wat 30 (**kes-*); GI 74; BK 243 (*$*k/^h/as$-/$*k/^h/əs$-*)]. MIr *cīr* (< **kēs-rehₐ-*) 'comb', ON *haddr* (< **kos-dh-o-*) 'woman's headhair', OE *heordan* (pl.) (< **kos-dh-i̯on-*) 'hards (of flax), tow', Lith *kasà* 'braid of hair', OCS *česati* 'comb', *kosa* 'hair', *kosmŭ* 'hair', Rus *kosá* 'braid', Grk *ξαίνω* 'scrape, comb (hair or wool); full (cloth)', *ξάνιον* 'comb (for wool)', *κέσκεον* 'tow', Hit *kiss-* ~ *kisā(i)-* 'comb'. This word is widespread and old in IE. It would appear that the focus of its meaning was the combing of human hair but that it could also be used of combing wool or flax.

See also TEAR². [D.Q.A., E. J. W. B.]

Felt

nak- 'press, squeeze', also 'felt wool?'. Lat *naccae* 'cloth-fullers' (this is a word that is usually taken as a Greek loanword in Latin; however, there is no reasonable Greek word to provide the Latin borrowing and it is probably better to assume that it is inherited in Latin), Grk *νάσσω* 'press, compress, stamp', (Hesychius) *τὰ νακτά* 'felt shoes', Hit *nakki-* 'weighty, important', *nakke(ss)-* 'be(come) heavy', TochB *nāks-* 'blame, reproach'. Perhaps also here are Grk *νάκος* 'fleece', *νάκη* 'woolly or hairy skin', and *νακο-τιλτέω* 'pluck wool' [*IEW* 754 (**nak-*)]. The semantic change would be 'what is felted' > 'wool'. **nak-* appears to be old in IE with the meaning 'press, squeeze, stamp'. The particular association we see with cloth in Latin and Greek may be the result of independent innovations in the two groups. If Grk *νάκος* belongs here (rather than with OE *næsc* 'soft leather, deer leather', OPrus *nognan* 'leather' [*IEW* 754]), then the association of **nak-* with cloth-making looks to be quite old in Greek and perhaps **nak-* with the meaning 'felt' is late PIE or a post-PIE borrowing from another IE group.

Plait

pleḱ- 'braid, plait'. [*IEW* 834 (**pleḱ-*); Wat 52 (**plek-*); GI 611 (*$*p^hlek^h$-*); Buck 9.75]. Lat *plectō* 'plait, interweave', ON *fletta* 'braid, plait', OE *fleohtan* 'braid, plait', OHG *flehtan* 'plait, weave', OCS *pletǫ* 'braid, plait', Grk *πλέκω* 'braid, plait', Av *frašnem* 'braiding', OInd *praśna-* 'braiding, basketwork; turban, headband'. Significantly we have OE *fleax* 'flax' (> NE *flax*) and OHG *flahs* 'flax' (< **ploḱso-*) derived from this root. Widely distributed in IE; undoubtedly the PIE term for 'plait'.

PIE distinguished between two very different ways of interlacing elements. Technically, weaving is done under tension: one set of elements (the warp) is held tight on a frame (the

loom) while the other set of elements (the weft or woof) is interlaced into the warp. In plaiting there is no tension, and no distinction between warp and weft—in fact, there may be more than two sets of elements, as in braiding that uses three.

__*resg-__ '± plait, wattle'. [*IEW* 874 (_*rezg-_); Wat 55 (_*rezg-_); Buck 9.19, 9.75]. Lat *restis* (< _*resg-tis_) 'rope, cord', OE *resc(e)* ~ *ris(c)* 'rush' (> NE *rush*), MHG *rusche* ~ *rosche* 'rush', Lith *rezg(i)ù* 'knit, do network', Latv *režģēt* 'knit, do network', OCS *rozga* 'root, branch', NPers *rayza* 'woolen cloth', OInd *rájju-* 'cord, rope'. Again widely distributed in IE and undoubtedly of PIE age. The reflexes of this word suggest a coarser kind of interlacing than for _*pleḱ-_, perhaps including wattling.

__*u̯ei(h$_x$)-__ 'plait, wattle'. [*IEW* 1120–1121 (_*u̯ei-_ ~ _*u̯ei̯ə-_); Wat 74 (_*wei-_); GI 559 (_*wei-_)]. Lat *vieō* 'bind, interweave', ON *veggr* 'wall', Goth *-waddjus* 'wall' (< _*wajju-_ < _*u̯oih$_x$us_), Lith *vejù* 'wind', OCS *vĭjǫ* 'twist, interweave', OInd *váyati* 'weaves'. Cf. the widespread nominal derivative _*u̯eimn-_ in MIr *fíam* 'chain', Lat *vīmen* 'pliant twig, switch, withe, osier', Grk *εἱμάδες* 'shepherds' huts', OInd *véman-* 'weaving stool' (the difference in meaning of the Old Indic word presumably betokens an independent derivation). There are numerous other nominal derivatives: (1) _*u̯eitis_ in OIr *fēth* 'fibre', Av *vaēiti* 'withy, willow'; (2) _*u̯ih$_x$tis_ in Lat *vītis* 'vine, grape tendril', ON *víðir* 'withy, willow', Lith *vytìs* 'osier-switch', OCS *vitĭ* 'something twisted to form a cord'; (3) _*u̯ih$_x$tek-_ in Lat *vītex* 'chaste-tree (*Vitex agnus-castus*)', OE *wīðig* 'withy' (> NE *withy*); (4) _*u̯itus_ in Late Lat *vitus* 'felly', OPrus *witwan* 'withy', *apewitwo* 'a kind of willow', Rus *vítvina* 'twig, switch, osier', Grk *ἴτυς* 'felly, shield edge, withy', *ἰτέᾱ* 'withy', *οἶσος* (< _*u̯oitu̯os_) 'withy, *Vitex agnus-castus*'. Widespread and old in IE. Here would appear to be the usual PIE word for the wattling part of 'wattle-and-daub' construction.

__*kert-__ 'plait, twine' (pres. __*kr̥nét^{s}ti__). [*IEW* 584–585 (_*kert-_); Wat 30 (_*kert-_); BK 263 (_*k[^{h}]ar-/*k[^{h}]ər-_)]. Lat *crātis* 'wickerwork, hurdle, honeycomb' (the Latin looks to be from an otherwise unattested _*kerh$_x$t-_), ON *hurð* 'hurdle', OE *hyrdel* 'hurdle' (> NE *hurdle*), OHG *hurt* 'hurdle', Goth *haúrds* 'door', OPrus *corto* 'hedge', Grk *κάρταλλος* 'basket', *κυρτία* 'wattle', *κύρτος* ~ *κύρτη* 'fishtrap, cage', OInd *kr̥ṇátti* 'spins', *karttar-* 'spinner', *kuṭí-* (< _*kr̥tí-_) 'hut', *káṭa-* (< _*kárta-_) 'mat'. Widespread and old in IE.

__*mesg-__ '± intertwine'. [*IEW* 746 (_*mezg-_); Wat 42 (_*mezg-_)]. ON *mǫskvi* 'mesh', OE *max* 'net', *mæscre* 'mesh', MDutch *maesche* 'mesh' (borrowed > NE *mesh*), OHG *masca* 'stitch', Lith *mezgù* 'knit', *māzgas* 'knot', Latv *mežgu* 'knit', *mazgs* 'knot', *mežga* 'mishmash, something badly woven', TochA *masäk* 'knot, bond, connection', TochB *meske* 'knot, bond, connection'. At first glance this word might appear to have meant 'knit' (as it does in Baltic); however, knitting is only attested in the archaeological record since the third century AD at Dura-Europos in Syria. While clearly older than that, the technique is equally clearly not of PIE date. What we may have here in _*mesg-_ is a word for creating *sprang*, a plaiting technique in which threads or cords are intertwined over one another to form an open-work mesh. Threads are stretched between two parallel beams and neighboring threads twisted around each other (as in a cat's cradle). The twists are pushed symmetrically to both ends and held by a rod until the next twist can be put in to secure the preceding twists. The work proceeds in this fashion until the two groups of twists meet in the middle and are darned together to prevent unravelling. The resulting fabric is very elastic and was much used for hairnets, stockings, or sleeves, which had to be able to stretch to go over masses of hair or around awkward corners like heels and elbows.

[D.Q.A., E.J.W.B.]

Spin

__*(s)neh$_1$(i)-__ 'twist fibres together to form thread; occupy oneself with thread' (present __*(s)néh$_1$i̯e/o-__). [*IEW* 973 (_*(s)nē-_); Wat 62 (_*snē-_); GI 609 (_*sneH-(i/u)-_); BK 189 (_*sin-/*sen-_)]. MIr *sníïd* 'twists, binds; torments; strives', Wels *nyddaf* 'spin', Lat *neō* 'spin', OHG *nā(w)en* 'sew, stitch', Latv *snāju* 'twist loosely together, spin', Grk *νέω* 'spin', *ἐΰννητος* 'well-spun', OInd *snā́yu-* 'band, sinew'. Widespread nominal derivatives include: (1) _*snoh$_1$teh$_a$-_ in OIr *snāth* 'thread', OE *snōd* 'headband' (> NE *snood*), Latv *snāte* 'linen shawl, cape'; (2) _*snéh$_1$tis_ in OHG *nāt* 'seam', Grk *νῆσις* 'spinning'; (3) _*snéh$_1$mn̥_ in Lat *nēmen* 'tissue, fabric', Grk *νῆμα* 'thread, yarn'. Since they are all banal noun formations, they may all be independent in the various IE groups. In two traditions derivatives have given words for 'needle': Celtic in OIr *snāthat* and Germanic in ON *nāðl*, OE *nǣdl* (> NE *needle*), OHG *nādala*, Goth *nēþla* (< _*neh$_1$-tleh$_a$-_). From _*(s)nih$_1$-_ (< _*(s)nh$_1$i-_) we have: Lith *nýtis* 'weaver's reed', Latv *nīts* (some part of the loom), Rus *nítĭ* 'thread'. This widely attested verb would seem to have been the original PIE term used to designate the process by which thread or yarn was made, either by twisting fibers together or by stretching and twisting sinew, gut, etc.

__*sneh$_1$u-__ 'twist fibres together to form thread; occupy oneself with thread'. [*IEW* 977 (_*snēu-_); Wat 62 ((_*s)neəu-_); GI 609 (_*sneH-(i/u)-_); BK 189 (_*sin-/*sen-_)]. ON *snūa* 'wind, (double and) twist (yarn), twine (thread)', Latv *snaujis* 'noose, snare', OCS *snujǫ* 'set warp'. Either from _*sneh$_1$u̯-r̥_ or _*sneh$_1$-u̯r̥_ 'sinew, tendon' are Lat *nervus* (< _*neuro-_) 'sinew, tendon, muscle, nerve', Grk *νεῦρον* 'sinew, tendon, cord', Arm *neard* (< _*snēu̯r̥t_) 'sinew, tendon, fibre', Av *snāvarə* 'sinew, tendon', OInd *snā́van-* 'tendon, sinew', TochB *ṣñor* 'sinew'. _*sneh$_1$u-_ is another derivative, also old, beside _*sneh$_1$i-_ of _*sneh$_1$-_.

__*(s)pen-__ 'draw, spin'. [*IEW* 988 (_*(s)pen-(d)-_); Wat 63 (_*spen-_); Buck 6.31]. ON *spinna* 'spin', OE *spinnan* 'spin' (> NE *spin*), OHG *spinnan* 'spin', Goth *spinnan* 'spin' (Gmc < _*spen-u̯-_), OPrus *panto* 'chain', Lith *pinù* 'weave', *pinaĩ* (pl.) 'woven fence', Latv *pinu* 'weave', OCS *pĭnǫ* 'tighten, strain', Alb *pe* (pl. *penj*) 'thread' (< _*penos_), Grk *πένομαι* 'toil (particularly at household tasks)', Arm *hanum* ~ *henum* 'weave', TochA *pänw-* 'draw out, stretch', TochB *pänn-* 'draw

(out), stretch' (Arm and Toch < *pen-u̯-). The meaning 'spin', i.e., draw out fibers to make thread, may be an old specialization of 'draw out, span' or it could equally well be that the 'weave' meanings shifted from the notion of working with thread. This specialization must be at least late PIE in date.

***terk^(w)-** 'twist' (> 'spin'). [*IEW* 1077 (**terk-*); Wat 70 (**terkʷ-*); Buck 6.32]. Lat *torqueō* 'twist, wind; hurl violently; torment', OE *þrǣstan* 'turn, twist, writhe', OHG *drāhsil* 'roller', OPrus *tarkue* 'reins', OCS *trakŭ* 'band, belt', Rus *tórok* 'reins', Alb *tjerr* (< **terkne/o-*) 'spin' (also *tjerr* 'worsted, flax yarn spun with a spindle'), Grk *ἄτρακτος* 'spindle', *ἀτρεκής* 'strict, precise, exact' (< *'what is not turnable'), Hit *tarku(wa)-* 'turn oneself, dance', OInd *tarkú-* 'spindle', TochA *tark-* 'earring', TochB *tärk-* 'twist around; work (of wood)'. The hapax MIr *trochal* ~ *trothal* 'sling?' is sometimes put here but it may well be a borrowing from Lat *torculum* 'kind of catapult'. Otherwise, this is a widespread lexeme, old in Indo-European, that in several dialect areas (Albanian, Greek, Old Indic) has been specialized to 'spin', presumably starting with the notion of 'twisting' the fibers of wool or flax together so as to make a long thread.

?*u̯erp- '± spin; sew' (?). [Buck 6.31]. Lith *verpiù* 'spin', *var̃pstis* ~ *varpstė̃* 'spindle', Latv *vērpt* 'spin, twist here and there', *virpêt* 'spin with a spindle', are sometimes compared with Grk *ῥάπτω* (< *u̯r̥p(h)i̯e/o-*) 'sew'; *ῥαφίς* 'needle' but there are phonological difficulties with this equation (the origin of the Grk *-ph-*?) that may suggest borrowing by both pre-Greeks and pre-Balts from some non-IE source.

Weave

***h₂/₃eu-** 'weave'. [*IEW* 75–76 (**au̯-*); Wat 4 (**au-*); GI 498; Buck 6.33]. ON *vāð* 'weaving', OE *wǣd* 'clothes' (> NE *weeds* as in "widow's *weeds*"), OHG *wāt* 'clothes', Lith *áudžiau* 'weave', *at-audaĩ* 'woof', Rus *usló* 'weaving', Arm *z-awd* 'band, cord', OInd *u-* 'weave' (suppletive present *váyati*), *ótu-* 'weft'. This is the most basic term for 'weave' that is reconstructible for PIE. It has largely been supplanted, within PIE itself, by the enlarged **h₂/₃u̯ebh-* of the next entry. Cf. ON *auðna* 'fate', OE *ēad* 'wealth, luck' from the notion of 'weaving one's fate'.

***h₂/₃u̯ebh-** 'weave'. [*IEW* 1114 (**u̯ebh-*); Wat 73 (**webh-*); Buck 6.33]. ON *vefa* 'weave', OE *webbian* 'weave' (> NE *web*), OHG *weban* 'weave', Alb *vej* (< **h₂/₃u̯ebh-ni̯e/o-*) 'weave', Grk *ὑφαίνω* 'weave', Hit *huppai-* 'entangle, ensnare; interlace', *huppala-* 'net' (though *-pp-*, reflecting PIE **-p-* rather than **-bh-* is not well explained), ᴳᴬᴰ*hupra-* 'a type of woven material', Av *ub-daēna-* 'made of cloth', NPers *bāfad* 'weaves', OInd *ubhnáti* ~ *umbháti* ~ *unápti* 'ties together', *ūrṇa-vābhi-* 'spider' (lit. 'wool-weaver'), TochA *wäp-* 'weave', TochB *wāp-* 'weave', *wpelme* 'spider's web', *yape* (< **h₂/₃u̯ebhos*) 'spider'. This enlargement of **h₂/₃eu-* would appear to have been the usual word for 'weave' in later PIE, contrasting technologically with 'plait'.

***u̯eg-** 'plait, weave'. [*IEW* 1117 (**u̯eg-*); Wat 73–74 (**weg-*); GI 367; Buck 6.33]. OIr *figid* 'weaves', OWels *gueetic* 'weave', Lat *vēlum* (< **u̯eg-slom*) 'sail, cloth', OE *wēoce* 'wick' (> NE *wick*), MHG *wiht* 'wick', OInd *vāgurā* 'net for catching animals'. This would appear to be an old word in Indo-European. Perhaps its oldest meaning had reference to some sort of plaiting. Only in the far west of the IE world, in Celtic and Italic, did it become the regular word for 'weave'.

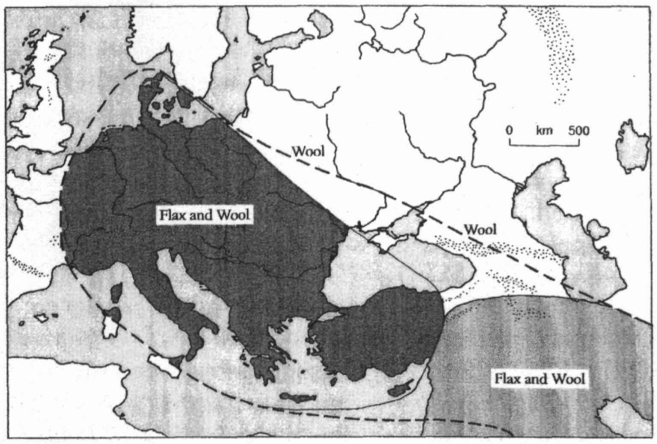
There is no archaeological evidence from the PIE period that allows us to know for certain what kind of loom or looms the Proto-Indo-Europeans used. Linguistic evidence shows that they knew at least the simple band loom, the narrow warp of which is hitched to any two convenient objects. Such a loom produces a narrow piece of fabric ideally sized for a belt or cinch. There is no evidence that they were familiar with either the ground warp-weighted loom, which appears to have developed along the Tisza and Danube rivers (and is relatively easy to trace archaeologically because of its clay weights, which are far less perishable than the usual wooden parts). The latter loom seems to have been known at least as far east as the Cucuteni-Tripolye culture of the Late Neolithic in Romania and the western Ukraine. Under some scenarios the Cucuteni-Tripolye culture is either the western neighbor of the Proto-Indo-Europeans or is itself identified with the PIE communities. But all vocabulary for the warp-weighted loom in Greek, for example, has been borrowed; and the Indo-Iranians did not carry this simple technology with them to the southeast. Thus, it is clear that not all PIE speakers knew the warp-weighted loom, and as yet we have no proof that any did. It must, therefore, have been an early acquisition by westward-moving IE groups, largely if not exclusively in the immediate post-PIE period.

***krek-** 'beat the weft with a stick'. [*IEW* 618–619 (**krek-*); Wat 32 (**krek-*)]. ON *hræll* (< **krókilos*) 'pin-beater' (stick used by a weaver to beat the weft home), OE *hrēol* (< **krékulo-*) 'reel' (> NE *reel*), *hrægl* 'clothes' (> NE *rail*), OHG *hregil* '± clothes, hide', Lith *krẽklės* 'ragged clothing', Latv *krękls* 'shirt', Grk *κρέκω* 'strike (the web), weave; pluck a stringed instrument', *κρόξ* 'warp, thread (of the warp)', *κροκύς* 'tuft of wool', *κερκίς* 'pin-beater'. A word of the west and center of the IE world. The basic meaning of this lexeme is 'to beat the weft home with a small stick that has the weft wound on it'. Then, by re-evaluation, 'something with thread wound on it' or 'to weave' (and ultimately to 'something woven'). The stick, known as a pin-beater, was one of the basic tools for weaving on a small hand-loom; it could also be used on a large one. The twanging action by which the pin was used to disentangle the warp led in Greek to a transfer to twanging a stringed instrument.

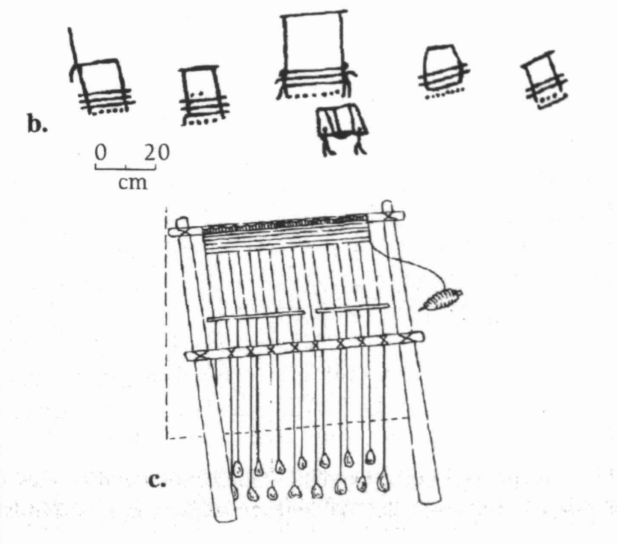
[D.Q.A., E.J.W.B.]

Dye

***reg-** 'dye'. [*IEW* 854 (**reĝ-*); Wat 54 (**reg-*)]. Grk *ῥέζω* 'dye', *ῥέγμα* 'dyed cloth', *ῥηγεύς* ~ *ῥογεύς* ~ *ῥεγεύς* 'dyer', *ῥῆγος* 'blanket, rug', Khwarezmian *raxt* 'red', NPers *rang* 'color', OInd *rájyati* ~ *rájyate* 'is colored, reddens, is red', *rāga-* 'color, redness', *rakta-* 'colored, red', *mahārajana-* 'dye-paint; safflower'. Though a PIE word with absolute initial **r-* is very



Textiles a. Map of loom types and textile regions. Light shading represents area of ground looms; dark shading indicates area of the warp-weighted loom. Central Europe and SW Asia both employed flax (and later) wool while the region to their north used primarily wool. The reconstructed PIE lexicon indicates words for 'wool', 'weaving' and 'plaiting' but not for looms. The word for 'flax' is confined to the west and center of the IE world.



Textiles b. Depictions of warp-weighted looms on north Italian rock carvings of the second millennium BC; c. Classical Greek warp-weighted loom.

unusual (words that otherwise look like they began with *r- were actually preceded, on the evidence of Greek, by a laryngeal, i.e., *h_1r-, *h_2r-, or *h_3r-), the exact phonological, morphological, and semantic match between Old Indic and Greek would seem to assure at least late PIE dialect status. From the point of view of the universals of color terminology it is interesting to note that in Indo-Iranian at least 'color' and 'red', as color *par excellence*, were closely intertwined (cf. Spanish *colorado*). From the point of view of dyeing it is important to note that red (especially if we include 'browns' and 'oranges') is the first attested color in dyed textiles in all of the European and Near Eastern areas where dyeing is attested early.

See also DARK. [D.Q.A., E.J.W.B.]

Full

***knab(h)-** 'pick at, tease out'. [*IEW* 560–561 (*k_enē-bh-*)]. Wels *cnaif* 'fleece', ON **hnafa* (pret. *hnōf*) 'punch out', MDutch *noppe* 'nap, pile' (borrowed > ME *noppe* 'pile, nap' > NE *nap*), Lith *knabénti* 'pick at, peck at', Latv *knàbt* 'pick, peck at', Alb *krrabë* 'hook, knitting needle', Grk *κνάφω* 'full (cloth)', *κνάφος* 'fuller's teasel', *κναφεύς* 'fuller' (Myc *ka-na-pe-u* 'fuller'). A word of the west and center of the IE world. Fulling, or the felting of already woven fabric, increases the insulation value of the cloth. The process is documented already in the late Neolithic in Europe. It is possible, but by no means certain, that the Proto-Indo-Europeans knew of the process and practiced it. If so **knab(h)-* is our only candidate for the word designating it. Equally possible is the hypothesis that IE speakers acquired the process as they moved west into central Europe and came into contact with people(s) who had more sophisticated techniques of textile making. Under this latter scenario **knab(h)-* would most likely be a borrowing by these IE groups from some non-IE language of central Europe.

[D.Q.A., E.J.W.B.]

Sew

***si̯uh$_1$-** 'sew'. [*IEW* 915–916 (**si̯ū-*); Wat 68–69 (**syū-*); GI 610 (**syu(H)-*); Buck 6.35]. Lat *suō* 'sew, sew up/together', ON *sȳja* 'sew, tie the planks of a ship together', OE *sēowian* 'sew' (> NE *sew*), OHG *siuwen* 'sew', Goth *siujan* 'sew', Lith *siuvù* 'sew, stitch, tailor', Latv *šuvu* 'sew', OCS *šiję* 'sew', Grk *κασσύω* (< **kat-súō*) 'sew', OInd *sī́vyati* 'sews, joins', TochA *sū-* 'sew'. This word is very widespread in IE and clearly ancient with precisely this meaning. There are a couple of widespread nominal derivatives: (1) **si̯uh$_1$mḗn* in OPrus *schumeno* 'waxed thread; shoemaker's thread', Grk *ὑμήν* 'thin skin, membrane, sinew', Hit *sumanza* 'thread', OInd *syū́man-* 'band, strap, thong; girdle; seam'; (2) **si̯uh$_1$tos* in ON *sūð* 'sewn planks of a ship', *sjōðr* 'pouch, bag', OE *sēod* 'pouch, bag', MHG *siut* 'thread', Lith *siùtas* 'sewn', Rus *šítyj* 'sewn', OInd *syūtá-* 'sack'. Sewing, along with needles and thread, was an art already known in the Palaeolithic, one that has not changed appreciably over the millennia, so one would expect what we find here, namely an archaic root that has spread with the speakers of IE languages.

***(s)ner-** 'fasten with thread or cord'. [*IEW* 975–976 (**(s)ner-*); Wat 62 (**(s)ner-*)]. ON *snœri* 'woven cord or line', OE *snēr* 'harpstring', OHG *snuor* 'cord', Goth *snōrjō* 'basket made with cords', Lith *neriù* 'thread (a needle), knit, crochet', Latv *nãrs* 'clamp', Rus *nerët* ~ *neretó* 'a kind of fish-trap', MIran *nār-* 'grasp', TochB *ñare* 'thread; fringe'. Perhaps also belong here ON *nǫrva-* 'narrow', OE *nearu* 'narrow' (< 'bound

together'?) (> NE *narrow*), OHG *narwo* 'scar, seam'. Less widely attested, though more general in meaning, than the previous word. Certainly a late PIE word at least.

?*strenk- 'string, to pull (tight)'. [*IEW* 1036–1037 (**strenk-* ~ **streng-*); Wat 67 (**strenk-*); Buck 9.19]. MIr *sreng* 'string, cord', ON *strengr* 'rope, cord', OE *streng* 'cord' (> NE *string*), OHG *stranc* 'cord', Grk *στραγγός* 'drawn through a small opening'. The MIr *sreng* 'string, cord' may be a Norse loan and has also been connected to the verbal root *sreng* 'to pull, drag'; Latv *stringt* 'become tight, to dry' has been suggested here but is unclear. Possibly related is Lat *stringō* 'squeeze, pull'. This collection of uncertain relationships does not present a clear case for an IE etymon.

??*téntlom '(that which is) pulled tight'. [*IEW* 1065 (**ten-tlo-*)]. OPrus *sasin-tinclo* 'rabbit-snare', Lith *tiñklas* 'net', NPers *tār* (< **tanθra-*) 'thread, warp', OInd *tántra-* 'warp, woven chain'. From **ten-* 'pull, make tight'. The meaning here of 'snare' seems to be restricted to Baltic while the Indo-Iranian words would appear to be independent derivatives of **ten-*.

See also Color; Pierce; Textile; Turn; Wind. [D.Q.A., J.C.S.]

Further Reading

Barber, E. J. W. (1991) *Prehistoric Textiles: The Development of Cloth in the Neolithic and Bronze Ages.* Princeton, Princeton University Press.

THEN *see* PRONOUNS

THICK

****dheb-*** 'thick, packed'. [*IEW* 239 (**dheb-*); Wat 13 (**dheb-*)]. ON *dapr* 'sad', MDutch *dapper* 'quick, strong' (borrowed > NE *dapper*), OHG *tapfar* 'weighty, heavy', OPrus *debīkan* 'large', OCS *debelŭ* 'thick', Rus *debëlyj* 'strong', Luv *tapar-* 'rule', Hit *tabarna-* 'ruler' (< Proto-Anatolian **dobros* '± strong'). TochA *tpär* 'high', TochB *tapre* 'high' have been placed here but these are rather to be associated with the meaning 'deep'. The inclusion of Anatolian alongside what would otherwise be a series of cognates limited to the northwest greatly increases the likelihood of PIE status.

****tegus*** 'thick, fat'. [*IEW* 1057 (**tegu-*); Wat 69 (**tegu-*); Buck 12.63, 12.64; BK 105 (**t[^{h}]ik'-/*t[^{h}]ek'-*)]. OIr *tiug* 'thick', Wels *tew* 'thick', ON *þykkr* 'thick', OE *þicce* 'thick' (> NE *thick*), OHG *dicchi* 'thick'. Probably Hit *tagu-* 'fat, swollen' with *o*-grade vocalism. Traditionally regarded as only a Celtic-Germanic isogloss (and doubted even there by some in light of the considerable loaning between those long-time neighbors), the recent addition of a plausible Anatolian leg to this item improves the case for PIE status.

?*g^{w}retsos 'thick'. [*IEW* 485 (**g^{u}retso-*); Buck 12.63]. MIr *bres* 'large, thick', Wels *bras* 'thick, fat', Late Lat *grossus* 'thick'. While the Celtic and Latin forms might conceivably come from the same source, they at best point to a northwest IE form.

?*dénsus ~ ****dn̥sóus*** 'thick'. [*IEW* 202–203 (**dens-*); Wat 11 (**dens-*); GI 150 (**t'ens-*); Buck 12.64; BK 126 (**t'an-as-/*t'ən-as-*)]. Lat *dēnsus* 'thick', Grk *δασύς* 'thick', Hit *dassus* 'massive, mighty'. The vocalism between the Greek and Latin as well as the problematic Grk *-s-* < **-n̥s-* have led some to reject this correspondence, which lies at the heart of this etymology. Inclusion of the Hittite form has also been challenged. While the reconstruction is not fundamentally impossible, each leg is very weak and does not present a strong case for PIE status.

See also Fat; Large; Thin. [J.C.S.]

Further Reading

Neu, E. (1995) Hethitisch *tagu* "dick, (an-)geschwollen". *KZ* 108, 1–5.

THIEF *see* STEAL

THIN

****mh̥$_a$krós*** 'thin, long'. [*IEW* 699 (**mākrós*); Wat 38 (**māk-*)]. Lat *macer* 'lean, meager, thin' (via OFrench > NE *meager*), ON *magr* 'thin', OHG *magar* 'thin', Grk *μακρός* 'long, big, high; deep; long-lasting' (cf. also *μακεδνός* 'long, svelte, thin'). This particular word is one of the west and center of the IE world. Other formations include Hit *maklant-* 'thin', Av *mas-* 'long' and guarantee that the root is widespread and old in IE. Cf. the related noun **méh$_a$kos* (gen. **mh̥$_a$k(e)sós*) in Lat *macor* 'meagerness', Grk *μῆκος* (Doric *μᾶκος*) 'length, largeness', Av *masah-* 'length'.

****ténus*** (gen. ****tn̥nóus***) 'thin, long'. [*IEW* 1069 (**tenu-s*); Wat 70 (**ten-*); GI 684 (**t^{h}en-*); Buck 12.65, 12.66; BK 106 (**t[^{h}]an^{y}-/*t[^{h}]ən^{y}-*)]. OIr *tanae* (*DIL tana*) 'thin', Wels *tenau* 'thin' (Celtic < pre-Celtic **tanau̯(i̯)o-*), Lat *tenuis* 'thin, fine', ON *þunnr* 'thin', OE *þynne* 'thin, lean, not dense' (> NE *thin*), OHG *dunni* 'thin', Lith *tę́vas* 'thin, slim', Latv *tiêvs* 'slender', OCS *tĭnŭkŭ* 'slender, thin', Grk *τανα(ϝ)ός* 'long, elongated', *τανύ-θριξ* 'long-haired, shaggy', MPers *tanuk* 'thin, weak', OInd *tanú-* 'thin, slender, small', *tánuka-* 'thin, slender, small'. Also sometimes put here are Av *tanū-* 'body', OInd *tanū́-* 'body', but the relationship is doubtful. From **ten-* 'extend, stretch'; particularly one should note Grk *τάνυται* 'is stretched', OInd *tanóti* ~ *tanuté* 'expands, extends, endures'. Clearly old in IE. The original meaning must have been 'stretched', whence both 'thin' and, less commonly, 'long'.

****kr̥ḱós*** 'thin'. [*IEW* 581 (**korḱ-*); GI 84 **k^{h}orḱ^{h}-*)]. ON *horr* 'thinness' (< Proto-Gmc **hurha-* < **kŕ̥ḱos* with stress retraction appropriate to the formation of nouns from adjectives), Czech *krs* 'shriveled tree', *krsati* (< **kr̥ḱ-eh$_a$-*) 'lose weight, wane', Av *kərəsa-gu-* 'with lean cows', OInd *kr̥śá-* 'emaciated, lean, thin, weak', *kr̥śá-gu-* 'with lean cows'. Lat *cracens* 'gracile' is sometimes put here but it offers some phonological difficulties. The underlying verb is preserved in Lith *káršti* 'be aged or decrepit', OInd *karś-* 'grow thin or lean; be thin or lean'. The geographical spread of this word's attestations guarantees its PIE status.

****skidrós*** 'thin'. [*IEW* 920–921 (**skĕi-d-*); GI 97

(*skʰeit-)]. OHG *sceter* 'thin', Latv *šķidrs* 'thin', Grk (Hesychius) *σκιδαρός* 'thin, slender'. A word of the west and center of the IE world. The relationship, if any, with Lith *skiedrà* 'chip', Av *sidara-* 'hole, cavity', OInd *chidrá-* 'pierced', *chidrám* 'hole, cavity' is semantically very distant.

See also EXTEND; LONG; SMALL. [D.Q.A.]

THINK

men- 'think, consider'. [*IEW* 726–728 (**men-*); Wat 41 (**men-*); GI 394 (**men-*); Buck 17.14; BK 519 (**man-/ *mən-*)]. Probably the most ancient formation attested with this verb is the perfect **memónh₂e* 'think, remember': Lat *meminī* 'remember, mention', ON *muna* (pres. *man*) 'remember', OE *munan* (pres. *man*) 'think', Goth *munan* (pres. *man*) 'think, believe', Grk *μέμονα* 'yearn', Arm *i-manam* 'understand', OInd *mamné* 'thinks'. There would appear to be two corresponding presents: (1) **mn̥iétor* 'thinks': OIr *do-moinethar* 'believes', Lith *miniù* 'remember', OCS *mĭnjǫ* 'think', Grk *μαίνομαι* 'rage, be mad' (cf. the new Greek derivative *μάντις* 'prophet, diviner'), Av *mainyeite* 'thinks', OInd *mányate* 'thinks'; (2) **mnéhₐti*: Grk *μνῆμα* 'remembrance', Luv *m(a)nā-* 'see, look upon'. Cf. also Grk *μέμνημαι* 'be mindful of, remember', OInd *ā-mnā-* 'commit to memory and hand down' which underlies the method of poetic transmission. Other formations appear in Lat *moneō* 'remind, warn', Lith *menù* 'consider', Latv *minêt* 'mention', OCS *mĭněti* 'think, seem', Rus *mnitĭ* 'mean', Luv *mimma-* (< **mimne/o-*) 'regard, favor', OInd *mánati* 'mentions'. Widespread and old in IE.

teng- 'think, feel'. [*IEW* 1088 (**tong-*); Wat 71 (**tong-*)]. Lat *tongeō* 'know', ON *þǫkk* 'gratitude, reward, joy', *þakka* 'thank', *þekkja* 'notice', OE *þanc* 'thanks, favor' (> NE *thank*), *þancian* 'thank' (> NE *to thank*), *þencan* 'think' (> NE *think*), *þyncan* 'seem', OHG *dank* 'thanks, favor', *dankōn* 'thank', *denkan* 'think', *dunken* ~ *dunchen* 'seem', Goth *þagks* 'grace', *þagkjan* 'think, plan', *þugkjan* 'please', Alb *tëngë* 'resentment, grudge', TochA *tuṅk* 'love', TochB *taṅkw* 'love', *cäṅk-* 'please', *cäṅcare* ~ *ciṅcare* 'lovely, agreeable, charming, delightful'. Widespread and old in IE. In contrast to **men-*, the underlying meaning of this word seems to have been 'think, be of the opinion of' rather than the more assertive 'think, know'.

?*gʷhren- 'think'. [*IEW* 496 (**gᵘhren-*); Wat 26 (**gʷhren-*)]. ON *grunr* 'suspicion', *grundr* 'meditation', Grk *φρήν* 'midriff; soul, spirit', *φρονέω* 'think', *φροντίς* 'care'. Possibly a word of the west and center of the IE world. The Greek developments cast an interesting light on how IE peoples may have conceptualized the physical location of the thought process.

ménmn̥ 'thought'. [*IEW* 727–728 (**men-men-*); Wat 41 (**men-*); cf. GI 394 (**men-*); BK 519 (**man-/*mən-*)]. OIr *menmae* (*DIL menma*) 'spirit, sense', OInd *mánman-* 'mind, perception'. From **men-* 'think, consider'. Attested only on the peripheries of the IE world, this word would seem from its geographical distribution to be of PIE age.

ménes- 'thought'. [*IEW* 727 (**menos-*); Wat 41 (**men-*); GI 186 (**men-*); BK 519 (**man-/*mən-*)]. Grk *μένος* 'thought', Av *manah-* 'thought', OInd *mánas-* 'thought'. From **men-* 'think, consider'. A word of at least the center and east of the IE world.

méntis (gen. ****mn̥téis***) 'thought'. [*IEW* 727–728 (**men-ti-*); Wat 41 (**men-*); GI 172 (**mn̥tʰis*); BK 519 (**man-/ *mən-*)]. Lat *mēns* 'thought', OE *ge-mynd* 'thought', OHG *gi-munt* 'thought', Goth *ga-munds* 'thought', Lith *mintis* 'thought', OCS *pa-mętĭ* 'thought', Av *-maiti-* 'thought', OInd *matí-* 'thought'. From **men-* 'think, consider'. Widespread and old in IE.

See also LEARN; OPINION; [D.Q.A.]

THORN

tr̥nu- 'thorn'. [*IEW* 1031 (**(s)ter-n-*); Wat 66 (**(s)ter-n-*); cf. GI 820]. ON *þorn* 'thorn', OE *þorn* 'thorn' (> NE *thorn*), OHG *dorn* 'thorn', Goth *þaúrnus* 'thorn', OCS *trŭnŭ* 'thorn', Khot *tarra-* 'grass', NPers *tara* 'small twig', OInd *tr̥ṇam* 'blade of grass'. Cf. with new full-grade: Grk (Hesychius) *τέρναξ* 'artichoke or cactus stalk'. The most widespread and oldest word reconstructible for this meaning; the Indo-Iranian semantic innovation to 'grass' is remarkable. The form was borrowed into some of the Uralic languages, e.g., Finnish *tarna* 'sedge, grass', from Indo-Iranian.

ureh₂gh- 'thorn'. [*IEW* 1180 (**urāgh-*); Wat 78 (**wrāgh-*)]. MIr *fraig* 'needle', Lith *ražas* 'dry stalk, stubble; prong of fork', Grk *ῥᾱχός* 'thornhedge, wattled fence; brushwood; branch', *ῥάχις* 'spine, backbone'. A word restricted to the west and center of the IE world.

glōgh- 'thorn'. [*IEW* 402 (**glōgh-*); Wat 23 (**glōgh-*)]. SC *glog* 'thorn', Grk (pl.) *γλῶχες* 'beard of corn', *γλωχῖς* 'point, end', *γλῶσσα* 'tongue'. A later word restricted to the center of the IE world.

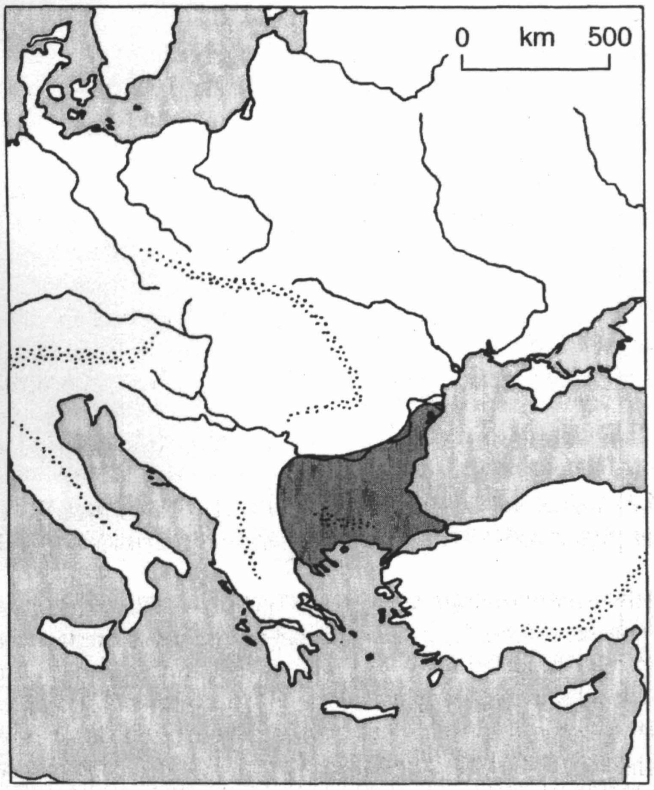
See also NETTLE. [D.Q.A.]

THOUGHT *see* THINK

THRACIAN LANGUAGE

The Thracians were the ancient people of the southeast Balkans. Geographically, the testimony of classical writers is extremely unspecific but the center of their territory would largely comprise that of modern Bulgaria, i.e., south of the Danube, with extensions into the Aegean (the islands of Thasos and Samothrace). There is also a long tradition in ancient literature that Thracians crossed into northwest Anatolia as early as 1200–1000 BC and continued to migrate in that direction as mercenaries in later armies. They take their name from that of a single tribe, the *Θρήικες* ~ *Θρᾶκες*, who were situated on the Hébros (the contemporary Maritsa), a name which was then extended to a much wider territory and its various tribes.

The Thracians are mentioned as allies of the Trojans in Homer and later Herodotus ranks them, after the Indians, as the most numerous people in the world. Their territory was subjected to incursions from Greek colonies, Iranian-speaking



Thracians General distribution of the Thracians.

steppe tribes, and the Persian Empire. The Thracians formed their own temporarily unified state under the Odrysae tribe in the fifth century BC but this state fell to Macedonian conquest in the fourth century. By the early second century BC it was Rome that gradually controlled Thrace and after 46 AD Thrace became a Roman province. The subsequent collapse of the Roman Empire saw Thrace as a thoroughfare for a wide variety of tribes moving either through or against the crumbling Roman state. The Slavs settled the region in the sixth century AD, insuring total linguistic replacement of the Thracians, if they had not already been hellenized centuries earlier. That Greek culture had not entirely obliterated the earlier Thracian is suggested by the fact that Thracian place names such as *Pulpuldeva* survived into Slavic (Bulg *Plovdiv*) rather than under their Greek form (*Φιλιππούπολις*).

Description

The evidence for Thracian is not abundant. It consists of a small series of short inscriptions in the Greek script and dating from about the fifth century BC. These pose such serious problems in reading, word division, and interpretation that they remain without widely accepted translations. Other sources include glosses found in Hesychius and Photius which might number about thirty certain Thracian terms. Other than this, one relies primarily on establishing etymologies for toponymic and personal names attested since the fifth century BC. These names may occur in large numbers and with remarkable frequency, e.g., there are 360 instances of the personal name ***Βιθυς***, 132 of ***Τηρης***, 115 of ***Ζευθης***. The most recently attested Thracian personal names are found in two monasteries in the Near East (the Bessi of Mt Sinai) dating to the sixth century AD.

Some Thracian names offer reasonably transparent comparison with Greek names, e.g., Thrac *Δια-ζενις* may be compared with Grk *Διο-γένης*. Such compositions permit us to derive Thracian *Dia-* from PIE **di̯u(o)-* 'god' or Thracian -*ζενις* from **ĝenh₁-* 'be born'. The latter, along with other examples, e.g., ***Ρησος*** (name of mythic king and personal name) (< **h₃reĝ-*), *Esbenus*, ***Ἐσβενειος*** (< **h₁ék̂u̯os* 'horse'), the river ***Ἄρζος*** (< **h₂r̥ĝos* 'white'), personal name ***Βύζας*** (< **bhuĝos* 'goat') all suggest that Thracian palatalized and assibilated the PIE palatal velars and thus belonged to the *satəm* group. The establishment of a series of probable reconstructions, e.g., ***Βέβρυκες*** 'tribal name' (< **bhébhrus* 'beaver'), ***σκάλμη*** 'knife, sword' (< **skolmehₐ-*; cf. ON *skǫlm* 'prong, sword') permits one to list a series of other Thracian developments, e.g., deaspiration of voiced aspirates, **o* > *a*, etc.

Until 1957 it was normally presumed that Thracian might also embrace Dacian, the language spoken north of the Danube, and the term Thraco-Dacian occurs widely in linguistic works. Reasons for questioning the ascription of all east Balkan tribes to a single language is the toponymic evidence which shows considerable disparity between terms employed south of the Danube and those found north in historically "Dacian" territory. Typical Thracian toponymic elements such as *-para* 'settlement', *-bria* 'town', *-διζα* 'fortified settlement' (< **dheiĝh-*, cf. Grk *τεῖχος* 'wall') and **-sara* 'river' are all found exclusively south of the Danube. In a thorough review of the toponymic evidence, only 36 roots out of over 3000 east Balkan words could be adjudged truly "pan-Thracian", i.e., comprising both Thracian (in the strict sense) and Dacian. It must be noted, however, that the lexical evidence is far more abundant for the area south of the Danube which could well skew any attempt to quantify the differences between the various regions.

Thracian Origins

As with other IE-speaking groups of the Balkans, the establishment of Thracian origins depends very much on where one wishes to situate the IE homeland itself. A chain of cultures, each with roots in the former, can be established in Thracian territory from our earliest records of Thracian names through the Iron Age Basarabi culture of the eighth–sixth centuries BC back into the local late Bronze Age cultures whose own origins are sought in the earlier Otomani-Wietenberg culture of the earlier Bronze Age. The most recent major discontinuity in the Bulgarian archaeological sequence is generally set to the period *c* 3300 BC with the establishment of the Ezero culture which is tied into a Balkan-Danubian complex of cultures that followed on from the late Neolithic of the region. For those who seek the IE homeland in the

steppelands of the Ukraine and southern Russia, this horizon reflects the initial Indo-Europeanization of the Balkans and possibly northwest Anatolia. Evidence for steppe intrusions is found in the form of *kurgan* or tumulus graves in Bulgaria (at least seventeen Yamna-culture cemeteries have been investigated with nearly a hundred burials) and elsewhere throughout the Balkans that reproduce rituals and objects known from the steppelands. To this archaeological evidence may be added the evidence of physical anthropology that sees an intrusive physical type from the north Pontic region (a more robust proto-Europoid type) superimposed on a much more gracile Mediterranean population.

There are those who do not regard the discontinuity afforded by such steppe movements as sufficient to explain the Thracians and would seek their roots earlier still in the local Neolithic cultures. Bulgaria is extraordinarily well represented here since tell sites in southern Bulgaria show in their sequence of well stratified layers a line of settlement continuity from the beginning of the Neolithic *c* 6000 BC. There are those who have sought the IE homeland in the Balkans itself (both its "central" position with respect to the other IE stocks and the presumed antiquity of its river names have been advanced as arguments) while others argue that as the Neolithic economy itself is intrusive to this region from Anatolia, the homeland must be set there in the eighth and seventh millennia BC. Whatever lines of continuity one may wish to follow, the reconstructed cultural lexicon of Proto-Indo-European would not permit a PIE "cultural horizon" in the Balkans much earlier than the fourth millennium BC.

See also Cernavoda Culture; Coţofeni Culture; Dacian Language; Ezero Culture; Indo-European Languages; Phrygian Language. [J.P.M.]

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THREAD *see* TEXTILES

THREATEN

ghres- '± threaten, torment'. [cf. *IEW* 445 (**ghers-*); VW 234]. Lith *gresiù* 'threaten, menace', *gristù* 'be disgusted with', *grasà* 'threat', *grasinù* 'threaten', Latv *grasât* 'threaten', TochAB *krāsā-* 'vex, torment' (Latv and Toch < **ghroseh$_a$-*). The agreement of Baltic and Tocharian, an agreement extending to the level of morphology, strongly suggests at least late PIE status for this word.

?*sker- '± threaten'. [VW 429]. OHG *scerōn* 'be petulant', MLG *scheren* 'to ridicule', TochB *skär-* 'speak hostilely; threaten; reproach'. Possibly PIE status.

See also Contend. [D.Q.A.]

THREEFOLD DEATH

The "Threefold Death" theme, as it is unfolded in various Indo-European narratives and other contexts (myth, story or legend, account of sacrificial death or perhaps of execution) is thought to show another repetition or reflex of the canonical IE trifunctional division: First Function (F1) sovereignty, Second Function (F2) offensive and defensive war, Third Function (F3) increase, fertility, sexuality. A "Threefold Death" would refer more or less precisely to three kinds of death, each connected to or situated in some aspect of one of the three IE functions. This theme has been identified in a number of IE-speaking traditions, especially in the Celtic and Germanic evidence but not limited to these areas, with the differences and variations to be expected. While much of the evidence simply connects a particular type of death to a particular functional area, the most dramatic representation of the theme has a victim (king, hero, or other) simultaneously undergoing or suffering a triple-death, that is, the victim is done to death by three different means.

The connection between the three IE functions and different modes or means of death can be made first, though to a limited extent, on the mythic level. Here we have the evidence that the Norse-Germanic deity Ōðinn-Wotan, a First Function divinity on the dark, uncontrolled or Varunaic side of this divided function, is called *hangagoð*, 'god of the hanged' or the 'hanging god'; indeed, the Norse *Hāvamal* says that Ōðinn hanged or sacrificed himself, 'myself to myself,' for nine days and nights in order to gain certain exceptional (runic) powers. Hanging or suspension "above" or "in the air" (or falling) is clearly marked with F1 characteristics. Suggestions of another part or reflex of the death-myth are found in the sacrifice by drowning seen in the Norse-Germanic tradition, a sacrifice dedicated to an F3 deity, such as the goddess Nerthus (Germanic) or the god Njörðr (Norse). The F3 divinity is thus attached to a sacrificial event, the drowning or burial alive, that is placed "below" as Tacitus, in his *Germania*, describes slaves being drowned as a sacrifice to the god Nerthus. A Second Function myth-death has been more difficult to locate; we would expect some sort of sword-death or a death by means of some other kind of warrior's

weapon, and hints of this are found in the Northern (Germanic) traditions, though rather late in time: Jordanes' *Getica* (late sixth century AD) says that the Goths "spilled blood" to their war-god while the Icelandic *Eyrbyggja saga* mentions blood-sacrifice to Þōrr. According to the Roman observer Lucan (first century AD) the Celts sacrificed victims to Taranis, one of their war-gods, in another way: they seem to dedicate their F2 victims by fire rather than by the sword, presumably imagining the deadly fire as a "piercing" element, or perhaps taking fire to be a specific means of warlike aggression. Another aspect to the developing theme that connects particular, functionally located divinities to a particular mode of sacrifice (or execution) connects the victim himself to a specific functional identification: for example the F1 king hanged, the F2 warrior slain by a weapon, the F3 commoner or slave buried alive or drowned.

The "Threefold Death" in its fully articulated form appears in certain Irish sources: typically, a king dies a triple-death, often fulfilling a prophecy made by a sacral (F1) figure such as a druid or, later, a saint. The means of death are: by a weapon, a fall, drowning or by a weapon, burning and drowning, though elsewhere the three death-modes are given as wounding, hanging and "imprisonment," as in a list of punishments given in the *Corpus Juris Hibernici*. The drowning (most dramatically in a vat of beer) happens when the doomed victim tries to escape the flames of a burning house, fort or hostel: the conjunction of life-threatening fire and a vessel or cauldron of some liquid is an old theme in both Irish and Welsh Celtic legendry. Another reflex of the theme is seen when the threat of suffering a threefold death is included in a curse, which is close to but not exactly like the prophecy noted above. This triple-death theme spreads downward or outward from royal or heroic legend, and is widely current in the folklore of IE-speakers; here snakebite (a "piercing" and poisoning) is often tied to hanging or to a fatal fall, and to simultaneous drowning, though other variations are certainly possible.

The strong Indo-European flavor present in the "Threefold Death" theme emerges in such characteristics as the fact that the king, who as sovereign power ideally commands all three of the IE Functions, should in a mythically perfect or symmetrical fashion be killed or sacrificed simultaneously by some means closely associated with each function. The theme also crosses over to and reinforces or is reinforced by other well-identified IE modes, such as that called by Georges Dumézil the "Sins of the Warrior". As an example: in the Norse-Germanic story of Starkaðr (Saxo's Starcatherus) this strange warrior's first and greatest "sin" is to arrange, by the will of Ōðinn, the death of King Vikar. Starkaðr lures the king into a situation where he is simultaneously hanged or strangled (by willow twigs or, in another version, a noose of gut) and stabbed by a reed that turns into a spear. The willow and the reed suggest the waterside, and thus a lost or obscured drowning theme, that is, an appropriate F3 death. The conjunction of trifunctional signs and death-modes is also discovered in the ancient Greek evidence in the death of King Agamemnon, slain by a weapon but in his bath, and while caught in a net. The theme is even possible to find in the death of the Germanic hero Siegfried, who is also killed by a weapon, but while drinking from a spring, and near a linden-tree; hanging and drowning themes remain as mere suggestions here. Finally, from a Russian source (Slavic materials are not especially rich in IE patterns) we have the death, given in the *Russian Primary Chronicle*, of Prince Oleg: after defying a prophecy (F1) the prince was killed by a snake-bite, the serpent (here showing an F3 "subterranean" sign) emerged from the skull of Oleg's dead horse (an F2 animal, the warrior's mount). This example is slightly distorted, but maintains intact the central pattern of the "Threefold Death".

It should be remarked that it remains an open question as to whether, in an archaic or traditional Indo-European society, execution—the legal taking of life in the name of the state or society—was at all times directly derived from sacrifice to one or another "functional" divinity. We do have a considerable number of data showing that a traditional capital punishment could be fitted to a specific IE function; for example, burial alive was directed for crimes committed against property or sexual delicts, that is, offenses against areas included in the Third Function. Also, and this quite recently in English history, the crime of treason—a grievous offense against sovereignty—was punished by what can be read as a trifunctional punishment: hanging, drawing and quartering involved suspension, the cutting or piercing of the victim, and mutilation of the genitalia.

See also Death; Warrior. [D. A. M.]

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THREE-HEADED MONSTER

The monster-fight is typically woven into any number of hero-tales or, somewhat more significantly for our purposes, mythic narratives in which the hero is a prime subject or mover. The theme is by no means limited to the IE context, and can even become a kind of banal or comedic cliché (as the Maiden, the Knight, and the Dragon). So far as IE heroes are concerned—that is, hero-figures drawn from the mythic, epic or parahistorical traditions taken from the cultures of IE-speakers—the theme of combat with a monster-opponent

may unfold at any point in the heroic tale, and may express elements that might be tentatively named as *proving*, *proofing*, marking a *rite of passage* and reflecting the *hero's bane*. *Proving* uses the monster to demonstrate heroic character and, especially, heroic precocity, as when the infant Hēraklēs strangles the two serpents sent by Hēra to attack him in his cradle. *Proofing* recalls the bath in the slain dragon Fafnir's blood that made Siegfried almost invulnerable: in this rendition, the "bath of invulnerability" attaches the Germanic hero to Greek, Ossetian, and Indic epico-mythic parallels—in all cases, again, the heroes are made *almost* invulnerable, since it is axiomatic that a hero, as a human, must finally die. The monster-fight as a *rite of passage* introduces the rescue and "winning" of a female, who is the victim or monster's prey, as in the myth of Perseus and Andromeda, or it may be made part of a wider text as in the Old Welsh story *Culhwch ac Olwen*, where the monstrous boar Twrch Trwyth must be pursued and slain. On another line, the dragon-monster, as a sign of death and darkness, may "test" and transform the hero, as is hinted in the Greek myth of Jason. The monster as *hero's bane* is revealed as an element in hero death-tales: the cause of the death of a superhuman figure, perhaps made proof against any ordinary death, is assigned to a monstrous (possibly super-animal) power. The *Beowulf* tale thus has its hero-king prove his prowess by defeating two monstrous half-human entities, but he ends his life in mortal combat with a third, a dragon. The saga of Hrolf Kraka, with its potent supernatural elements, also ends with its hero (who, as a shape-changer, is himself a kind of monster) defeated by fate and another monstrous being; the Germanic part of the IE family has a demonstrable penchant for mixing monstrous humanoid beings into heroic myth or epic at some dramatic moment.

The shape the hero's monstrous opponent takes can be roughly parsed: the serpent-dragon (*draco*) is familiar from Greek myth but is seen extensively elsewhere as an image of fearful monstrosity either borrowed or generated autonomously. The giant boar is not only a Celtic monster, for it is seen in Greek hero-myths as well. The half-human monster, as we have noted, is likely to be seen in the North, where the Norse *lygisögur* or fantasy-tales are full of every variety of the type, and often the magical shape-changer theme—the shape-changer as hero or villain, as white or black magic-worker—is mixed in as well. The sea monster appears in another category, its fearsome potency increased because the hero must enter another, dangerous realm to fight it.

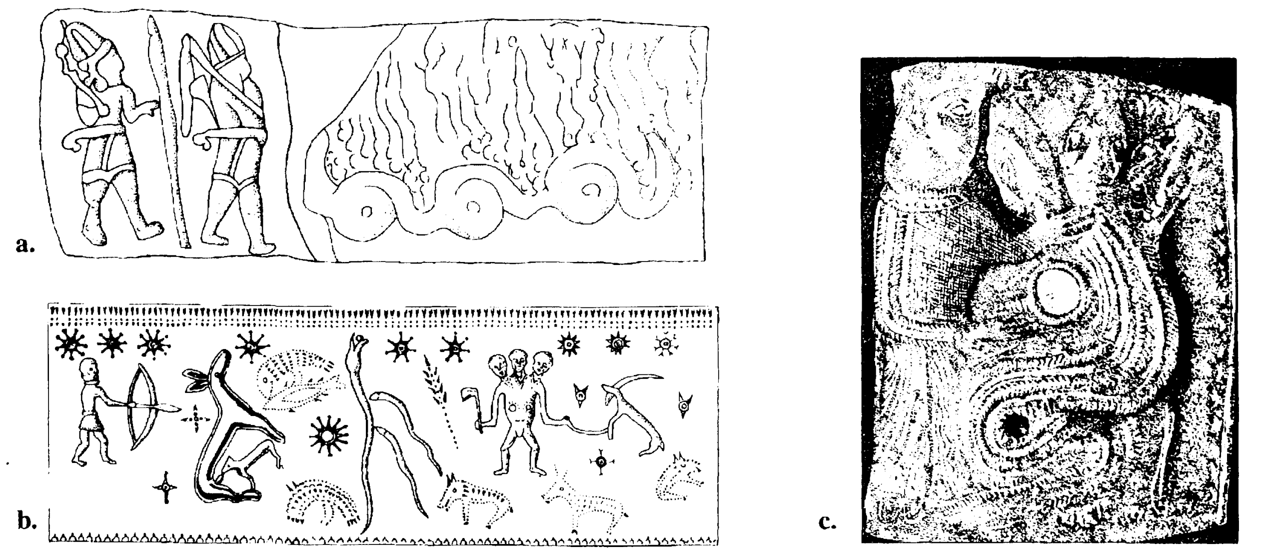
It should also be noted that the hero himself may be twinned with a monstrous animal or may actually be identified with an animal and/or monster. Heroes are associated with serpent-twins or, more commonly, with supernatural horses, horses who may (as in the Greek context) have flesh-eating or death-dealing, that is monstrous, powers. A particular of the theme of the supernatural generation of the hero is seen in the form of a mythic crop of warriors "grown" from dragon's teeth; the Greek *spartoi* are warriors who are produced asexually from a dragon-monster and are thus defined as perfect warriors, detached from any familial tie at all. At the other end of his life a warrior-hero, rather than dying in a monster-fight, may himself become a monster; this subtheme is seen, for example, in the quasi-historical Norse *Jōmsvikinga-saga* where a Jōmsviking chieftain, Pui Digre, leaps into the sea with his treasure and becomes the monster guarding it on the sea-bottom, and seems to be associated with another narrative theme, that of the dragon or sea-monster seen as Guardian of Treasure. Moreover the "hoarder" or obsessive guardian of treasure also has its resonance in the IE imaginal vocabulary, as referring to a bad (ungenerous) king (e.g., Midas). Finally, the hero-lycanthrope (hero as wolf, hero as bear) may also be conflated into this monster-theme; here is one aspect of the heroic paradox, when he appears or is imaged as Perfect Man, and also as Perfect Monster.

The Tricephalous Monster

The most characteristic IE monster-combat mythologem involves a tricephal, a three-headed being, usually but not invariably a dragon. The antiquity of this motif is guaranteed by linguistic evidence for a PIE formulaic expression *$*(h_1e)g^w$hént $h_1$óg^{w}him* 'he killed the serpent', which is widely found among those IE stocks which retain vestiges of the dragon-slaying myth, e.g., OInd *áhann áhim* 'he killed the serpent', Av *janaṯ ažīm* '[who] killed the serpent' with lexical substitutions in Greek, Hittite and Germanic. The expression also suggests the original identity of the dragon as a 'serpent'.

This being is defeated and slain by a divinity or a culture hero who is clearly associated with Dumézil's Second or Warrior Function, that function intended to guard society. The Dumézilian line of research which originally uncovered the IE mythologem first examined two closely related but also significantly varied accounts, one Indic (Vedic) and the other Iranian (Avestan): the slaying of tricephalic monsters by Trita Āptya, aided by the god Indra, who sometimes is called the real slayer of the tricephal) and the Iranian hero Θraētaona (also called Θrita Aθwya) who won, by his victory, the appellation Vərəθragna, evidently signifying "monster-defeating warrior-hero". The monsters were, respectively, Vṛtra, the three-headed son of Tvāṣṭṛ, and the three-headed dragon Aži Dahāka, who, in the later Persian rendition of the story given in the *Shāhnāmeh* became Zohak, as Θraētaona there became Feridun.

The complex lines tying these two IE narratives together must take account of linguistic clues and linguistic problems as well as underlining the differences in the uses to which the two IE sources have put the myth-narratives. Linguistically, the resemblance of Iranian Vərəthragna to Indic Vṛtrahan, 'slayer' (or 'smasher') of Vṛtra, seems indubitable; and there is also cause to surmise that the Iranian monster-dragon Aži Dahāka has a cognate in the Indic (Vedic) term Dāsas, meaning an enemy people. Two important and continuing themes may be noted at this point: that of a reciprocal tripartism in the hero-monster conflict, and that of the wider distribution of



Three-headed Monster a. Giant serpent on Hittite relief from Malatya; b. Three-headed figure from Gallehus horn (fifth century AD); c. Thracian three-headed serpent on Letnitsa plaque (fourth century BC).

the role of the Second Function monster-fighter, sometimes but not invariably re-attached to a three-fold apparition. The first theme recognizes or underscores the fact that a triply-significant figure such as the Indic Trita Āptya, one of three brothers, fights a tricephalic monster or foe. Dumézil found a parallel here to that piece of Roman legendary "history" in which the three Horatii fought and slew three Alban champions, only one of the three Roman combatants surviving the fight. The triplex foe also seems to represent, in all three traditions, the "hostile" and non-Indo-European potency; the Indic and Iranian sources casting this foe in the form, as Greenbaum suggests, of the "hostile dragon of the non-Indo-European peoples". Another reading of the combat-theme, however, notes that the slayings in at least two cases (the Indic and the Roman) involve the death of kinsmen, not strangers, and it may be that in all cases an element of forbidden killing can be found, i.e., the warrior-hero or other Second Function figure goes, as usual, beyond accepted limits, and violates important taboos, in gaining his necessary victory. In this he again demonstrates what Dumézil had found elsewhere in the hero of this function, his propensity toward the excessive use of the force that marks his *fonction*, and so toward "sin".

The second theme, of the wider distribution of the heroic monster-slayer, brings us to a character who is not only a typical transgressor, but who also rejoins the subtheme of triplicity. The Greek hero Hēraklēs, who later became immortal and was declared divine, was one of the figures Dumézil chose to illustrate his theory of the "sins of the warrior", the warrior-hero committing three sins against the rules of each of the three canonical *fonctions*. Hēraklēs was also a great fighter against monstrous opponents (lions, the serpent-Hydra, a giant boar, man-eating horses, and so on) and one of these was the three-headed Guardian of Hādēs, Kerberos. The paradigmatic hero did not slay this monster, merely took him captive, as one of his Twelve Labors. He may be called, in fact, the "Greek Indra"; as the Indic god was also sometimes recalcitrant, and committed a sin against each of the three Functions. Dumézil's third example of a sinning warrior, taken from German legendry, was the old warrior Starcatherus or Starkaðr. However, Starkaðr was not specifically a monster-slayer, in fact, in his Giant ancestry and possibly in his appearance he was rather a monster himself; if he was a Giant by birth, however, he did make a habit of fighting giant-like opponents. The Second Function monster-slayer in the Germanic exten-sion of the IE cultural/linguistic family was in fact the god Þórr (to whom, in fact, Starkaðr tried to attach himself in terms of the warrior mode he chose). Þórr fights monsters (the Miðgarð-serpent, various Giants) as, it would seem, part of his task of trying to bring order to the social cosmos; this monster-fighting attribute is in line with his social guardianship, which in his case is balanced against his less-controlled War-god aspect.

The monster-combat thus may be identified as a widely-encountered-IE heroic theme, that is of interest because the hero himself seems to be imaged as close to a monster in several aspects, but especially in his penchant for going beyond accepted bounds. The result is a potentiality for being as damaging to his society as he might, in his correct mode, be its defender. The identification of a specific tricephalic opponent has been useful in terms of establishing narrative resemblances between IE contexts, and also where the tricephal seems to be a coded image for the non-IE enemy, or

the "more numerous" foe. The tricephalic image may also fit with other IE tripartite formulae, though precisely how this occurs is not yet clear.

The tricephalous myth has been interpreted by Bruce Lincoln as the central event of what he terms the myth of the "first cattle-raid". He reconstructs a myth in which a hero **Tritos* 'Third' (ON Hymir, Grk Hēraklēs, Hittite Hupasiya, Av *Θraētaona*, OInd *Tritá*) has suffered loss of his cattle to a serpent (ON Miðgarð-serpent, Grk Gēryōn the *τρι-κέφαλος*, the grandson of the Medūsa, Hit Illuyanka who is depicted as a serpent, Av *Aži Dahāka*, the *θri-kamərəδəm*, OInd Viśvarūpa, the *tri-śīrṣāṇam*) who is associated with an enemy community (Av *Dahāka*, OInd *Dāsa*). He sets out to recapture his cattle, assisted by a deity **$h_a$ner-* 'Man' (ON Þórr, Hit *Innara*, Av Vayu, OInd *Indra*), and fortified by an intoxicating beverage, he kills the three-headed monster. This raid, which involves the reclamation of Aryan cattle from non-Aryan thieves, is seen to sanction cattle-raiding among the early Indo-Europeans.

See also COSMOGONY; COW; POETRY; SNAKE; WARRIOR. [D.A.M., J.P.M.]

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THRESH

peis- 'remove the hulls from grain, grind, thresh' (pres. ***pinésti***). [*IEW* 796 (**pis-*); Wat 48 (**peis-*); GI 598 (**p^heis-*); Buck 5.56]. Lat *pīnsō* 'remove the hulls from grain, stamp, pound, crush', Lith *paisýti* 'thresh', OCS *pĭchati* 'hit, stamp', Rus *pšenó* 'millet' (< *'the threshed'), Grk *πτίσσω* 'winnow', Av *pišant-* 'threshing', OInd *pināṣṭi* 'grinds, threshes'. Reasonably well attested and certainly old in IE. The Greek cognate appears to specify the winnowing, i.e., the separation of the husks from the grain after threshing by throwing them into the air. All the other cognates suggest that this word referred to the preliminary grinding of grain whereby the outer coats were broken and removed, rather than the later stage, whereby the grain itself was reduced to flour.

u̯ers- '± thresh (grain)'. [cf. *IEW* 1169 (**u̯ers-*); Buck 8.34]. Lat *verrō* 'sweep' (< *'sweep grain after threshing'), Latv *vārsmis* 'unwinnowed grain-heap', OCS *vrěšti* 'thresh', Hit *warsi* 'plucks, harvests', *warsiya-* 'sweep (clean)', also 'mow, reap, thresh', TochA *wsār* 'grain', TochB *ysāre* 'grain; wheat' (Toch < **u̯ersōro-* with loss of the first **-r-* by dissimilation). Widespread and old in IE, though the exact range of the original meaning is not easy to determine, perhaps because the process of separating the grain from the chaff may take many forms and involve several different processes, all of which were subject to change and refinement. The meaning of Hit *warsi* may, indeed, suggest that originally this verb meant generally 'harvest'.

h_2e$h_2$er- 'thresh, rake (for threshing)'. Lat *ārea* (< **h_2e$h_2$eri̯eh_a*) 'threshing floor', Hit *hahhar(a)-* '± rake', *hahhariye-* '± rake (into piles)'. Though not widely attested, the equivalence of Latin and Hittite in this matter would seem to guarantee PIE status to this word.

See also GRIND; HARVEST; WINNOW. [D.Q.A.]

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THROAT *see* GULLET

THROUGH

per 'over, through, about'. [*IEW* 810 (**per*); Wat 49 (**per*); BK 41 (**p^har-/*p^hər-*)]. OIr *air-* 'before, for', Wels *er* 'before, for', Lat *per* 'through, traversing', OE *fyr-* 'before', OHG *firi-* 'before', Goth *fair-* 'before', OPrus *per* 'before', Lith *peř* 'through, across, over; during', OCS *prě-* 'through, across, over', Alb *për* 'for, about, on', Grk *περί* 'around (all sides), about, over', Hit *pariyan* 'besides', Av *pairi* 'towards, around; in front, earlier', OInd *pári* 'around; about, towards'. Old in IE. From a reduced **pr̥* come Lat *por-* (verbal prefix), ON *for-*'before', *fyr* 'before, for', OE *for* 'for, in front of' (> NE *for*), OHG *for* 'from, in front of', *furi* 'before, for', Goth *faúr* 'in front of, along, for'.

See also ADPREPS; BEFORE. [D.Q.A.]

THROW

(s)keud- 'throw, shoot' (pres. ***(s)kéude/o-***). [*IEW* 955–956 (**skeud-*); Wat 60 (**skeud-*); Buck 9.29]. ON *skjóta* 'hurl, throw', OE *scēotan* 'hurl, throw' (> NE *shoot*), OHG *sciozan* 'hurl, throw', OCS *is-kydati* 'throw out', Rus *kidátĭ* 'throw', Alb *hedh* 'throw', OInd *códati* 'incites', TochA *kom* 'shoot (of a plant)', TochB *kaume* 'shoot (of a plant)' (Toch < **koud-mo-*). Widespread and old in IE.

$h_1$es- 'throw, hurl' (pres. ***h_1(e)si̯e/o-***). [Buck 10.25]. Hit *siyēzi* 'throws, hurls' (*siyāri* 'gushes'), *ū-ssiye-* 'draw curtains', *pe-ssiye-* 'throw, push', Av *as-* 'throw', OInd *ásyati* 'throws, hurls'. Old in IE.

g^welh_1- 'throw'. [*IEW* 471–472 (**g^uel-*); Wat 25

(*g^welə-); Buck 10.25; BK 360 (*q^wal-/*q^wəl-)]. Wels *blif* (< *g^wleh$_1$men-) 'catapult', Grk *βάλλω* 'throw', *βλῆμα* 'throw, cast', Av *ni-γar-* 'be thrown down'. The geographical distribution of this word makes it a likely candidate for PIE status.

i̯eh₁- 'throw'. [*IEW* 502 (*i̯ē-); Wat 79 (*yē-); Buck 10.25]. Lat *iaciō* 'throw', Grk *ἵημι* (< *i̯i-i̯eh$_1$-) 'release, let go; throw'. Though attested in only these two stocks, there is every chance that this word was at least late PIE because in both Greek and Latin the morphological shapes are old.

su̯ep- 'throw, sweep (into the air)'. [*IEW* 1049 (*su̯ep-); Wat 68 (*swep-); Buck 9.34, 9.37]. Lat *supō* 'throw', *dissipō* 'throw about, strew around', ON *svāf* 'spear', *sōfl* 'broom', OE *ge-swōpe* (as if PIE *-b-, rather than *-p-) 'sweepings, refuse' (> NE *sweep*), OCS *sŭpǫ* 'strew, pour about', *svepiti sę* 'be agitated', OInd *svapū* 'broom', TochB *sopi* 'net, snare' (< *'throwing net'). Widespread and old in IE.

?*smeit- 'throw'. [*IEW* 968 (*smeit-); Wat 62 (*(s)meit (ə)-)]. Lat *mittō* (< *smittō) 'let go, send', Av *maēθ-* 'throw', *ha-mista-* 'thrown down'. The fewness of the attestations of this word make it only a possible item of (late) PIE vocabulary.

See also SPEAR. [D.Q.A.]

THRUSH

trósdos 'thrush'. [*IEW* 1096 (*trozdos-); GI 458]. MIr *truit* 'starling', Lat *turdus* 'thrush', ON *þrǫstr* 'thrush', OE *þrysce* 'thrush' (> NE *thrush*), *þros(t)le* 'thrush', OHG *drosca-* 'thrush', OPrus *tresde* 'thrush', Lith *strãzdas* 'thrush', Latv *strazds* 'thrush', Rus *drozd* 'thrush'. A word of the IE northwest. Greek uses *κίχλη* 'thrush' from a root which also underlies the verb *κιχλίζω* 'giggle, titter' but *στροῦθος* 'sparrow' may be related if not reflecting exactly the same PIE form.

The thrushes are of the genus *Turdus* and are best known for their sweet song. The commonest of the genus are the song thrush, blackbird and the fieldfare. The various thrushes are well distributed throughout Europe to western and central Asia. In India the chats are included with the thrushes under such names as *raktakaṇṭa-*, *ahiyaka-* and *śyāmā-*.

See also BIRDS. [J.A.C.G.]

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THUNDER

ghrómos 'thunder'. [*IEW* 458–459 (*ghromo-s); Wat 23 (*ghrom-o-); Buck 1.56]. OCS *gromŭ* 'noise', *vŭz-grĭměti* 'to thunder', Grk (Hesychius) *χρόμος* 'noise'. From *ghrem- 'rumble, noise' which is clearly PIE although the noun *ghrómos 'thunder' may have been independently formed in different stocks.

(s)tenh$_x$- 'groan; thunder'. [*IEW* 1021 (*stono-s); Wat 66 (*(s)tenə-); Buck 1.56]. Lat *tonāre* ~ *tonere* 'to thunder', ON *stynja* 'groan', *þōrr* 'thunder', OE *stunian, þunian, stenan* 'groan', *þunor* 'thunder' (> NE *thunder*), OHG *donar* 'thunder', Lith *stenù, stenė́ti* 'groan', OCS *stenjǫ, stenati* 'groan', Rus *stón* 'groaning', Grk *στένω* 'thunder, sound, drone', (Hesychius) *τέννει* 'to thunder', OInd *stanáyati* ~ *tányati* 'thunders'. There is evidence for an athematic verb (also Lat *tonere*?), and for zero-grade in Germanic (and perhaps in OInd *tányati*). Lat *tonāre* has been explained from *tonh$_a$-ei̯e/o- as OInd *stanáyati*. Clearly PIE.

See also THUNDER GOD. [R.S.P.B.]

THUNDER GOD

perk^{w}unos 'Thunder god'. [IEW 822–823 (*perku̯ uno-s); cf. Wat 50 (*perk^{w}u-); GI 527 (*p^her(k^{ho})u-n-o-)]. ON *Fjǫrgyn* (mother of Þórr, the Norse Thunder god), OPrus *percunis* 'thunder', Lith *Perkū́nas* (Thunder god), Latv *Pērkūns* ~ *Pērkuons* ~ *Pę̄rkuons* (Thunder god), ORus *Perunŭ* (Thunder god), ?OInd *Parjánya* (Weather god). The Baltic and Slavic names are all commonly derived from *pérk^{w}us 'oak' and the associative pattern is reinforced in phrases such as Lith *Perkūno ąžuolas* 'Perkunas's oak', Latv *Pę̄rkōna uôzuōls* 'Pērkōn's oak', ORus *Perunovŭ dubŭ* 'Perun's oak', while connections with 'thunder' are seen in OPrus *percunis* 'thunder', Lith *perkūnija* 'thunderstorm'. Similarly, we have the Latv *Pērkōns mȩt savu milnu* 'Pērkōns throws his mace' where the word for mace is cognate with the ON *mjǫllnir* 'hammer', the weapon thrown by the Norse Thunder god Þórr. The association is explained by the frequent observation that lightning strikes tall trees such as the oak. This association is further reinforced by the Germanic tradition that Þórr strikes his primary foes, the giants, when they hide under the oak tree, one of the most frequent trees struck by lightning in a forest, but he cannot hit them when they hide under a beech, a tree that is very rarely struck by lightning. It is argued that the underlying meaning here is not 'oak' but rather that the Norse and Baltic forms are from *per-k^w-, an extension on the root *per- 'strike', while the underlying extension in Slavic is *peru- or *perg^{w}u-. These would then be related to *peruh$_x$nos 'the one with the thunder stone', again from *per- 'to strike', which would form a basis for words relating to 'stone', e.g., Hit *pēru* 'cliff, rock', OInd *párvata-* 'cliff, mountain' and the names of the weather deities associated with storms, e.g., OPrus *Perun*, ORus *Perúnŭ* (Thunder god), cf. Ukr *perun* 'thunder', Czech *perun* 'thunder', and possibly Alb *peren-di* 'god', Nūristāni *Părun* (War god). This way there would have been considerable crossing between the similar names for 'oak' with that of 'strike, thunder' which would provide a broader distribution for the semantic bundle than the linguistic evidence properly allows. For example, in addition to the observation that lightning (cf. ON *Mjǫllnir* (name of Þórr's hammer), Latv *milna* (name of Pērkōns's hammer) and the words for 'lightning', e.g. OPrus *mealde*, Rus *molnija*) frequently strikes oaks, there is also the widely held belief that fire is residual within the oak, i.e., the Thunder god strikes oaks and releases the fire from within them, or, alternatively, a lightning strike stores up fire within the tree which can then account for how one may release fire from wood through friction. Another complex of associations is between fire and

stones and these can be linked by the observation that one can kindle fire by striking stones against each other, e.g., Indra brings forth fire between two stones (*RV* 2.12.3). In both cases, the act of producing fire through a 'strike' indicates the creative potential of lightning and the two receptacles for fire are brought together again in Greek tradition where it was said that humans were created either from oaks or from rocks.

This creative potential can then help explain why the device wielded by the Thunder god, the club, mace or hammer, is also associated with fertility in the various IE traditions, e.g., Þórr's hammer is placed on the lap of a bride in a marriage ceremony, Indra's club (*vájra-*) is not only used for destruction but also for creation. The association of the Thunder god with the oak tree is limited to the western part of the IE world while the broader associations of Thunder god, lightning, stones, fertility, etc., may be either independent creations or refer back to a bundle of beliefs inherited from early IE tradition.

See also CLUB; OAK; THUNDER. [D.Q.A, J.P.M.]

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THUS

ar 'and, thus'. [*IEW* 62 (**ar*); BK 389 (**ħar-/*ħər-*)]. OPrus *ir* 'and, also', Lith *ir̃* 'and, also', Latv *ir* 'also', Grk *ἄρα* 'now, thus', Prak *ira* 'and', TochB *ra* (emphatic particle). Widespread and old in IE.

it- 'thus'. [*IEW* 285 (**i-t(h)-*)]. MWels *yt-* (preverb), Lat *ita* 'thus', Lith *it* 'very', Latv *it* 'right, even', OInd *íti* 'thus'. Widespread and old in IE.

ne 'thus'. [*IEW* 320 (**ne*)]. Lat *nē* (interrogative particle), OHG *ne* (interrogative particle), Lith *ne* 'as', Latv *ne* 'as', OCS *neže* 'as', Grk *τóνε* 'thus', Av *yaθ-na* 'that is', OInd *ná* 'like'. Widespread and old in IE.

[D.Q.A.]

TIE *see* BIND

TIME

prest- '(period of) time'. [cf. *IEW* 811 (**per-*); VW 388]. ON *frest* 'period of time, interval', OE *first* 'period of time, interval; delay', OHG *frist* 'period of time, interval' (Gmc < **prestom ~ *presti-*), TochA *praṣt* 'time, occasion; season', TochB *presto ~ preściya* 'time, occasion; season'. Perhaps the reconstruction should be **pres-sth₂-* 'what stands before'. The agreement of Germanic and Tocharian would seem to guarantee PIE status for this word.

kēs(k̂)eh$_a$- (or ***kēk̂seh$_a$-***?) 'time'. [Buck 14.11]. OCS *časŭ* 'time', Rus *čas* 'hour', Alb *kohë* 'time, period, epoch; weather'. Whatever its exact shape, an innovation of the central IE region.

See also DAY; NOW; SEASONS; SOON; TODAY; YEAR; YESTERDAY.

[D.Q.A.]

TIME-DEPTH

The establishment of the period of existence of the Indo-European proto-language rests to a considerable extent on one's conception of a reconstructed language. There are those who argue that the process of linguistic reconstruction is by its very nature without any temporal or spatial perspective and can only be understood as a linguistic abstraction, a system of sound laws. Consequently, speculation as to the date of this abstraction of rules is fundamentally idle although one may discuss the relative ordering of the sound laws or grammatical forms. This position would generally be regarded as far too extreme in that tentative dates at least are often ascribed to the proto-languages of the various Indo-European stocks, e.g., on the basis of reconstructed Proto-Germanic and loanwords from neighboring Celtic, the ancestor of the Germanic languages is set vaguely to 500 BC; in a more controlled situation, scholars of the Romance languages can set a confirmable date to Proto-Romance or the Common Latin from whence the modern Romance languages are derived. When Proto-Indo-European is ascribed some form of underlying reality that is also knowable, there are a series of methods that have been employed to provide it with chronological precision. These techniques may be divided into two basic types—relative and absolute chronologies—although there have also been many suggestions as to the absolute dates of relative chronologies.

Relative Chronology

Morphological ordering is one method of seriating Proto-Indo-European into different chronological periods. For example, unproductive grammatical constructions such as heteroclitics, where the stem alters between the nominative and the other cases, has been seen to represent an archaic formation generally associated with the most basic levels of vocabulary, e.g., 'water' (nom. **u̯ód-r̥* but gen. **u̯éd-n-s*), 'fire' (nom. **péh₂u̯-r̥* but gen. **ph̥₂u̯-én-s*). Alternatively, the highly productive *o-* and *eh$_a$-* stems have been traditionally regarded as relatively late IE formations and hence vocabulary associated with them has been claimed to be "late". The application of such rules of thumb have not been particularly convincing since it implies that the existence of the root (and cultural item) must be directly related to its inherited grammatical form. For example, such seemingly basic concepts as **bherh$_x$ĝos* 'birch', **u̯l̥kʷos* 'wolf', **h₂ŕ̥tk̂os* 'bear', etc., all putatively late *o*-stems, have been explained as either evidence that these terms had been gained only by Indo-Europeans after late migrations into areas forested by birches or that the wild animals, regularly known to peoples in Eurasia at least since the upper Palaeolithic (*c* 40,000–12,000 BC), only acquired enough cultural importance to require a name when they became a threat to domestic herds and flocks in the Neolithic (*c* 7000 BC). Such ingenuous reasoning is easily exposed by consideration of archaic formations in English where an ablauting plural seen in *cow/kine* is "old" but *cow/cows* is recent. As in the case of *kine* > *cows*, the history of

The Basic (One Hundred) Word List

I you we this that who what not all many one two big long small woman man person fish bird dog louse tree seed leaf root bark skin flesh blood bone grease egg horn tail feather hair head ear eye nose mouth tooth tongue claw foot knee hand belly breasts heart liver drink eat bite see hear know sleep die kill swim fly walk come lie sit stand give say sun moon star water rain stone sand earth cloud smoke fire ash burn path mountain red green yellow white black night hot cold full new good round dry name

linguistic change is full of examples of the replacement of unproductive morphological forms by productive ones. Moreover, it is certainly the case that throughout the reconstructible history of Indo-European **o-* and **eh$_a$-*stems have been the most productive noun formations. Thus the archaic formation may strengthen the case for the antiquity of the word but the use of a more "recent" grammatical construction does not necessarily indicate that the root or the cultural item itself is more recent. In any case, the creation of a name for a particular concept only tells us that those who created the term knew the referent—not that their ancestors did not. The newly created term may be a replacement for an older word with the same referent, a word made obsolete by taboo, as is arguably the case for any predecessors of **u̯l̥kʷos* and **h$_2$ŕ̥tk̂os*, or for some other reason.

The semantic development of the IE lexicon has also been seen to provide some evidence for the chronological ordering of PIE. This approach, championed particularly in the works of Wilhelm Brandenstein and still employed today, sought to distinguish between "earlier" meanings found preserved in Indo-Iranian and more "recent" semantic developments seen in the other IE languages of Europe. Hence, PIE **h$_a$eĝros* was found in Indo-Iranian to mean 'meadow, plain' while among the European languages it denoted a 'cultivated field'. This reasoning, and similar observations, prompted Brandenstein to argue that the earliest meanings were preserved in the east among primarily pastoral IE stocks, i.e., Indo-Iranian, whose origin lay in the Asiatic steppe while later migrations carried the Indo-Europeans into Europe where they adopted agriculture and their inherited vocabulary experienced the appropriate semantic shift to describe their new environment and economy. The logic of this approach is suspect since the ordering of semantic change can be reversed, e.g., it might be argued that the word **h$_a$eĝros* originally designated a 'cultivated field' and was later extended to mean simply 'plain' by Indo-Europeans who adopted a more pastoral way of life.

A third approach is founded on the principles of geolinguistics, where the "age and area" hypothesis was extended to linguistics to determine the antiquity of lexical items. One of the most prominent geolinguistic principles was the notion that central areas innovate while peripheral areas tend to conserve older forms. For example, we may reconstruct two terms for 'fire' in PIE. One of these, **h$_x$n̥gʷnis* displays cognates on the IE periphery in Latin, Lithuanian and Old Indic while the other term **péh$_2$u̯r̥* is found in the more "central" languages of Umbrian, Germanic, Old Prussian and Greek. Geolinguists explained the first cognate among non-contiguous languages as the original PIE word for 'fire' which had once extended across the territory of IE speech but was later replaced, in the central region, by **péh$_2$u̯r̥*. This shift was explained in sociological terms which saw a "democratization" of the center with a neuter replacing the more archaic animate form. Again, the conclusions far outran the evidence which merely indicated that there were at least two terms for 'fire' in PIE which may have differed semantically. The example of the word for 'fire', it might be noted, claims that the more "archaic" form, i.e., the heteroclitic **péh$_2$u̯r̥*, was the "innovative" form.

Absolute Chronology

Absolute chronologies with calendrical dates are also proposed on the basis of external dating, glottochronology, dead-reckoning and archaeological inference.

The first technique is seldom employed today and depends on the identification of language contacts between PIE and some other dated linguistic phenomenon. Günter Ipsen, for example, argued that Proto-Indo-European borrowed its word for star **h$_2$stḗr* from Akkadian *ištar* and not the Proto-Semitic form **aθtar*, therefore, Proto-Indo-European unity had existed at least until 2000 BC when (he argued) *ištar* first appears in Akkadian texts. In actual fact, such a lexical borrowing is highly dubious and there are no datable written records of any language that provides us with credible evidence for the date of PIE. To ascribe a date of *c* 2000 BC to Proto-Indo-European is also contradicted by the fact that we already have evidence for specifically Anatolian personal names by that time.

Glottochronology, the calculation of age separation between two or more genetically related languages on the basis of their retention or loss of a "basic vocabulary", has been employed to date the various "splits" between the different IE stocks. The basic, allegedly "culture-free" vocabulary is a standardized list of either 100 (see table above) or 200 words. The method, based on generalizations formed from a control sample of European languages, particularly Romance, assumes that two languages genetically related will share 86% of the words in common after 1000 years. In the original exercise of this technique on the various IE stocks, Morris Swadesh found the greatest time separation was between Latin and Tocharian whose split he assigned to about 5000 BC while most of the other IE stocks indicated mutual separations around 4000

BC or later. A more recent application of the method by Johann Tischler found the range of separations from 4200 to 2400 BC with a mean date of separation of 3300 BC. Today the technique has greater apparent credibility outside of Indo-European, e.g., Africa, Oceania, than within it, despite the fact that the early calibration of language separations was based on the written record of IE languages. This relative lack of favor for Indo-European languages is because its application in a number of test instances has been found to be far less accurate than its purported abilities to yield absolute dates and the fundamental logic of the technique, that languages possess a culture-free basic vocabulary which, like radiocarbon atoms, decays at a constant rate seems unfounded. Moreover, the implementation of the technique has proved quite difficult, e.g., how does one compare the basic vocabulary of languages that are not contemporary such as Hittite and Albanian? What constitutes a "match" when cognates can vary from identity to root cognates with varying morphological or derivational processes? How can one even presume that we have all the available lexical items in languages attested in a fragmentary state such as Anatolian and Tocharian? Although it may provide gross order of magnitude estimates, ascribing the separation of the IE stocks to the period from about 4500 to 2500 BC, there is so much scepticism concerning the method that even when its results are compatible with other forms of estimations, it enjoys very little currency among most Indo-Europeanists.

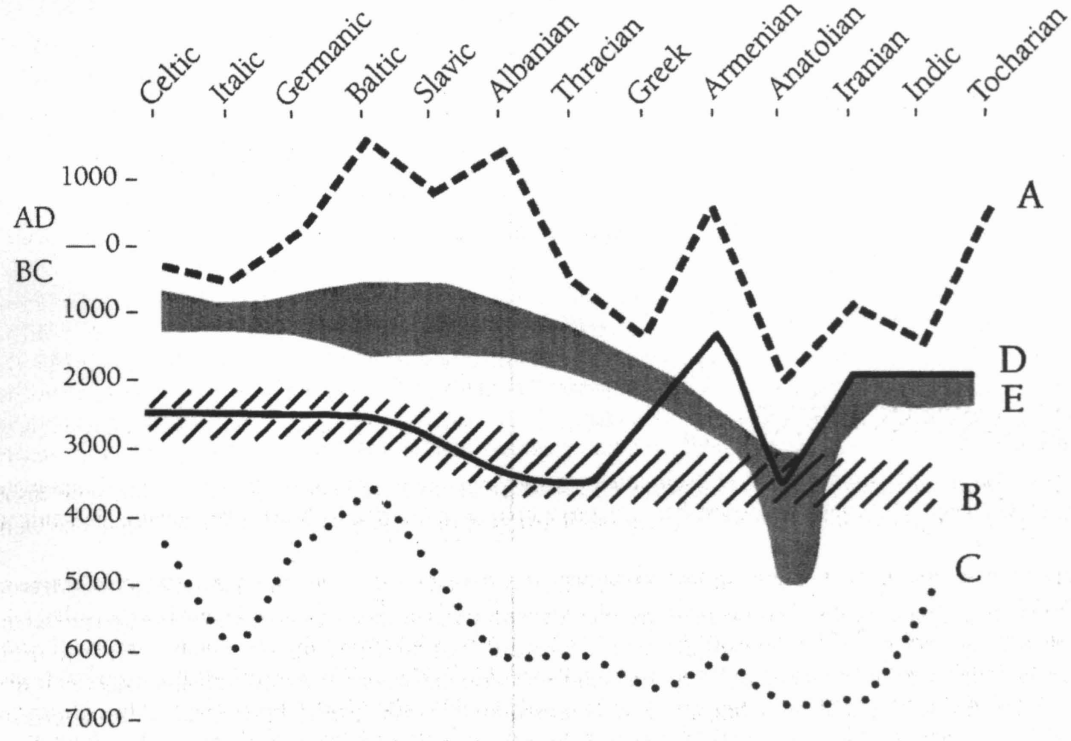
Another approach is perhaps best described as "chronological triangulation", the linguist estimating the time of separation between different languages or between language stocks based on the observed (although admittedly subjectively estimated) time of language separation elsewhere in the world. Typical approaches would be those of Warren Cowgill who, considering the state of the IE languages at *c* 1500 BC, believed that the time necessary to explain the separation of Anatolian, Greek and Indo-Iranian should have been somewhere between 1000 and 2000 years, i.e., the proto-language should have existed c 3500–2500 BC. This same order of magnitude has been invoked by many other linguists as the most likely period of terminal Indo-European or the earliest emergence of the individual IE stocks. Such a technique is largely intuitive, and nowhere has the precise foundation for such estimates been made explicit, but is based on the recognition that all languages do change even if all languages do not change at a uniform rate. Projecting historically attested rates of change back into prehistory provides some sort of upper limit on how long two actually attested languages (or stocks) can have been diverging. Thus, even assuming that all prehistoric Indo-European languages changed as slowly as Lithuanian has changed, extremely "high" dates for Proto-Indo-European (say, more than 7000 BC) would be impossible.

A number of linguists have suggested a sequential development and disintegration of the Proto-Indo-European language. Francisco Adrados has proposed a three-stage system: 1) a pre-inflexional stage before *c* 3400 BC; 2) a monothematic stage embracing the Anatolian languages that separated *c* 3400–3200 BC; and 3) a polythematic stage embraced by all the other IE languages that began their separation *c* 3000–2800 BC. With somewhat greater time-depth is the system proposed by Wolfgang Meid which consists of an Early Indo-European (*c* 6000–4500 BC) out of which the Anatolian stock derives, a Middle Indo-European (*c* 4500–3500 BC) and Late Indo-European (*c* 3500–2500 BC) which yields eastern (Indo-Iranian, Greek) and western (Italic, Germanic, etc.) groups. Such deep chronologies are largely motivated by differences between the evidence of Anatolian and the systems reconstructed for PIE, on the one hand, and a series of shared and presumably late isoglosses that may be found in Indo-Iranian and Greek. While such chronologies may conform with certain linguistic expectations, other than the presumption that by 2500 BC, there was divergence among the IE languages, the absolute dates are neither motivated nor supported by strict linguistic evidence.

The evidence of archaeology has also been sought to shed light on the time-depth of Indo-European and may be conveniently divided into two types. The first presupposes an archaeological identity for the Proto-Indo-Europeans and suggests dates which must in general conform with the archaeological chronology. The dates provided for both the systems of Adrados and Meid, for example, are to a considerable degree motivated by an acceptance of the "Kurgan theory" of IE origins which sets the homeland in the Pontic-Caspian steppe around the fifth millennium BC. Conversely, Luca Cavalli-Sforza and Colin Renfrew, who derive the Proto-Indo-Europeans from Anatolia and trace their expansions through a "wave of advance" of early farmers in Europe, turn the clock on PIE back to at least the seventh millennium BC. As such chronologies require one to know *where* the PIE homeland was before one can discuss *when* it existed, such a technique is at best circular if not wholly conjectural.

The second system involves the use of lexico-cultural evidence for providing broad ranges for the existence of the proto-language before differentiation into major stocks. While the reconstructed vocabulary cannot provide precise chronological markers, it does offer general parameters of plausibility concerning the date of the existence of the proto-language in question.

The range of domestic livestock—cattle, sheep, goat, pig—and the presence of grain and the technical vocabulary of its processing, e.g., grinding stone, sickle, ceramic vessels, all indicate that major divergences within the IE stocks had not taken place before the emergence of an agricultural or Neolithic economy. The dates for the inception of the Neolithic vary across Eurasia but the latest of the elements here, ceramics, do not generally appear before the seventh millennium BC (excepting east Asia/Japan which lie far beyond any homeland theories). This vocabulary provides rather unassailable evidence that the proto-language existed at least until *c* 7000



Time-Depth The ranges of Indo-European time-depth. A = the time of the earliest attestation of the various IE stocks; B = the time-depth of the initial appearance of the latest items of the reconstructed PIE culture in the various regions of the IE stocks; C = the date of the inception of the Neolithic in the regions of the various IE stocks; D = the time-depth of the arrival of the Indo-Europeans in various regions according to the "Kurgan model" of IE expansions; E = approximate dates commonly ascribed to the proto-languages (e.g., Proto-Celtic, Proto-Germanic) of the various IE stocks.

BC if it had been situated in the Near East (Anatolia to Baluchistan) or Greece and later if the homeland is situated outside of the nuclear zone of Neolithic developments.

The second horizon of temporal markers is somewhat less secure because of the nature of either the linguistic or archaeological evidence. The presence in the PIE vocabulary of some terms such as 'wool', 'plow', and words for wheeled vehicles is supported strongly on linguistic grounds; however, the precise location and dates for the inception of these items is archaeologically less certain. The most recent would be carts and wagons which do not appear in the archaeological record anywhere in Eurasia prior to the fourth millennium BC. Terms for metals are linguistically problematic; copper could date anywhere from the seventh millennium BC onwards while silver, arguably part of the IE vocabulary, is not generally found earlier then the fourth millennium BC and then confined to the Near East, the Caucasus and eastern Europe. If the horse is taken to be domestic, the earliest domestic horses would appear to date no earlier than the fifth millennium BC (some would argue even later) and are geographically circumscribed to eastern Europe. On both osteological evidence and the evidence of fibres recovered from prehistoric sites, it has been argued that the exploitation of sheep for their wool only began at the end of the Neolithic, again *c* 4000 BC. This would also be the same time in which we begin to see evidence of the plow in Eurasia. Broadly speaking, there is evidence to presume that the reconstructed Indo-European lexicon contains elements whose "reality" should not long pre-date *c* 4000 BC.

A terminal date for Proto-Indo-European is more easily arrived at through the historical testimony of the IE languages. Anatolian appears already by at least 2000 BC and the terminal date of Proto-Indo-European can then be no more recent that 2500 BC. Other than perhaps 'bronze' which cannot be reconstructed with certainty to PIE, there are few if any cultural diacritics that can provide us with a more precise *terminus ante quem* for Proto-Indo-European. On the other hand, archaeological evidence for the late Bronze Age and Iron Age may help to provide approximate chronological markers for the differentiation between either individual stocks (e.g., Celtic and Germanic) or within stocks.

The Utility and Limits of Absolute Dates

Absolute dates are a critical part of any attempt to situate the Indo-Europeans in the prehistoric record but they also have their limitations. The date ranges proposed for Proto-Indo-European are not of the same order of precision as

absolute dates employed by archaeologists based on radiocarbon, dendrochronology or cultural seriation against historically anchored data. By its very nature, any "late" word for a new technological item or other cultural or environmental innovation must begin in an idiolect (individual speaker) and then spread throughout the linguistic continuum. Such words will be ascribed to the proto-language when they are found to meet minimal requirements of distribution and when they cannot be dismissed as independent creations involving different IE stocks employing common derivational processes. Every new word is, consequently, a loanword with a source either internal or external to the language family in which it is found. The most commonly accepted model of IE dispersals envisages a linguistic continuum whose borders were continually extending until it was impossible for all of its speakers to maintain the same course of linguistic evolution. Regional differences would then appear and lead to the formation of dialects, languages, and ultimately stocks. The speed at which these differences might emerge among different late IE-speaking populations was probably by no means constant across the entire linguistic continuum of Proto-Indo-European nor were all elements of IE phonology, morphology, or vocabulary equally likely to undergo some form of differentiation. For example, **m* is very stable among the different IE stocks while *k^w underwent a variety of different evolutions. Hence a late invention such as the wagon and its name may have passed among speakers of Proto-Indo-European with relatively stable borders or among a proto-language which had expanded rapidly but where the existence of only small dialectal differences still permitted the original word to pass between speakers. On the one hand, there is no linguistic means of knowing precisely what one is dealing with when examining lexical reconstructions while archaeology is of no help at all unless one believes that he or she knows precisely what cultures spoke Proto-Indo-European and also what the phonetic inventory of each culture was. Hence the localization of lexical items in both space and time depends to a large degree on where and when one wishes to locate the IE homeland.

On the other hand, lexical-cultural items do provide some evidence for discriminating between different hypotheses. For example, if one wishes to maintain that the PIE homeland was in Greece and that the Proto-Indo-Europeans had been established there since 7000 BC and that they had dispersed from there over the rest of Eurasia by, say, 4000 BC, then one can evaluate the plausibility of such a proposal in light of the reconstructed lexicon. The hypothesis suggests that the basic reconstructed vocabulary was already present in Greece since 7000 BC. On the other hand, elements of the reconstructed vocabulary that do not appear anywhere in Eurasia until after 4000 BC, e.g., wheeled vehicles, and animals such as the horse, reconstructed to PIE, are unknown in Greece until after 2000 BC. To maintain that the language spoken in Greece since 7000 BC evolved into the Greek language requires us then to accept: 1) that the language spoken there since 7000 BC underwent no significant phonetic change for millennia (otherwise the Greek words for wheeled vehicles and horses would be detected as loanwords) and 2) that they acquired these terms from outside Greece from a population still speaking Proto-Indo-European (since the loanwords were adopted in the same form as we would reconstruct to PIE on the basis of the other IE stocks). As neither of these assumptions is plausible, then either the place or the date (or both) of this particular homeland solution must be wrong.

See also **Indo-European Homeland**; **Proto-Indo-European**; **Subgrouping**. [J.P.M.]

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TIN

There is no reconstructible term for 'tin' in PIE although there are some clear instances of shared terms or words borrowed from common substrates. Late Lat *stannum* or *stagnum* both refer to a mixture of lead and silver, probably a relic of galena smelting and the cupellation process involved in the extraction of silver from lead. In this form we can see the confusion of lead and tin metallurgy. The Germanic forms (ON *tin* 'tin', OE *tin* 'tin' [> NE *tin*], OHG *zin* 'tin') are to be associated with the Latin whose initial *s-* may either be an instance of *s*-mobile or phonetic adaptation, perhaps a missegmentation of an original attributive *h_a*eios tœñnom* 'tinny metal'. The original source language remains unknown. OIr *crēd* 'tin' (found in composition *crēdumae* 'bronze', i.e., 'tin-copper') is probably an ablaut variant of the same word *k^w*rēt-* 'form' whose zero-grade gives Wels *Prydain* 'Britain' and OIr *Cruithen* 'Cruthin' (name of an ethnic group in early Ireland which was applied to the Picts of northern Britain), hence it was the 'British' metal, a reference to the important tin deposits in Cornwall. Alternatively, the narrowest reference may not have been to the smelted metal but to the ore, cassiterite. If

this is so, the Irish masculine noun may ultimately be related to OIr *crē* 'clay', Wels *pridd* 'clay' and Lat *crēta* 'chalk', for though cassiterite itself is a dark brown mineral, it gives a characteristic white streak. Grk **κασσίτερος** 'tin' has all the hallmarks of an Aegean loanword. Efforts to provide it with an IE etymology have not been successful nor has the attempt to relate it to the ethnonym Kassite. Beneath the Sumerogram NAGGA and the Akkadogram ANAKU, Hittite describes tin as *dankui-*, which is homophonous with, and therefore probably identical to, the adjective 'dark, black'. Such a form is an unusual referent for tin which is usually thought of as 'white' and we probably see another instance of the ancient confusion between tin and lead.

The absence of a term for tin, the major constituent alloy which is combined with copper to make bronze, has often been employed to indicate a terminal date before which PIE unity was dissolved, i.e., sometime during the "Copper Age" but before the "Bronze Age". The chronological significance of our inability to reconstruct a PIE 'tin', however, is more complex. The earliest material to be alloyed with copper appears to have been arsenic (or at least copper ores naturally high in arsenic were employed). The alloying of arsenic and tin with copper reduced air bubbles in the casting and provided for a much tougher implement or weapon. Arsenical bronzes are generally found in a horizon that predates the appearance of true, i.e., tin, bronze. This horizon appears by the mid fourth millennium BC and includes the Kuro-Araxes culture of the Caucasus, the Kemi Oba culture (with its presumably imported arsenical bronzes), the late variants of the Tripolye culture such as Usatovo, the Corded Ware culture, Ezero, etc. But tin bronzes are also known sporadically from the end of the fourth millennium BC in the Near East and by the very early third millennium BC occasionally in Europe, e.g., within the Corded Ware culture. At sites such as Troy, which began *c* 2900 BC, the earliest bronzes were arsenical and tin bronzes did not appear in any number until *c* 2200 BC. Tin bronzes are found elsewhere in the east Mediterranean and in India during the early third millennium BC but generally it is not until nearly 2000 BC that tin bronzes are widespread in the Aegean. They appear in central and western Europe after 2000 BC but earlier in Italy where local tin sources may have favored their early development.

The problem with the late appearance of tin has much to do with its rarity in nature as it is by no means as ubiquitous as copper and the manufacture of bronze required extensive exchange systems to carry tin from the locations where it naturally occurred. These were limited to locations such as Cornwall, Brittany, possibly the Massif Central of France, Iberia, northern Italy and the Erzgeberge of Central Europe. Tin is also poorly represented in India and 70% of the copper objects in the Indus culture have one percent or less of tin alloyed with them. This pattern would encourage the expectation that words for tin in the various IE stocks may well have shown some interstock relationships, e.g., Italic and Germanic, but these words would be unlikely to reflect pan-IE terms as IE differentiation would have been well on its way before tin began to appear in many regions of Eurasia. On the other hand, arsenical bronzes should have been known in some regions at least by the period *c* 3500–3000 BC, i.e., the period in which we recover some of our earliest evidence for both wheeled vehicles and silver, two items that one may attribute to PIE-speakers. This technology, however, does not seem to be recoverable through linguistic means. This unrecoverability is not altogether surprising as arsenical bronzes were replaced by tin bronzes and it is even questionable whether a prehistoric community would have required a separate term for such an alloy rather than employing some modifier on their existing word for 'copper'.

See also GOLD; IRON; LEAD[2]; METAL; SILVER. [M.E.H., J.P.M.]

TIRED

k̂emh$_a$- 'grow tired, tire oneself with work' (pres. ***k̂m̥-né-h$_a$-ti***). [*IEW* 557 (**k̂em(ə)-*); Wat 29 (**kemə-*); Buck 4.91; BK 258 (**k[^{h}]am-/*k[^{h}]əm-*)]. MIr *cuma* 'grief', MBret *caffou* 'grief', Grk **κάμνω** 'be tired, work hard at', **κομέω** 'take care of, attend to', OInd *śā́myati* 'becomes quiet, fatigues, ceases'. Attested at both ends of the IE world. Surely old in this sense.

leh$_1$d- 'grow slack, become tired'. [*IEW* 666 (**lē[i]d-*); Wat 35 (**lē-*); Buck 4.91]. Lat *lassus* (< **l̥h$_1$d-to-*) 'tired', *lēnis* (< **leh$_1$d-ni-*) 'gentle', ON *latr* 'sluggish', *letja* 'hinder', OE *læt* 'sluggish', *lettan* 'hinder', OHG *laz* 'sluggish', *lezzen* 'hinder', Goth *lats* 'lazy', *latjan* 'delay' (Gmc < **l̥h$_1$do-* and **l̥h$_1$dei̯e/o-*), Lith *lė́nas* 'lazy, gentle', OCS *lěnŭ* 'lazy' (Balto-Slavic < **leh$_1$d-no-*), Alb *lodhet* (< **leh$_1$detoi*) 'becomes tired', Grk (Hesychius) **ληδεῖν** 'be tired', TochB *lāl-* (< assimilated from **l̥h$_1$d-n-*?) 'exert oneself, tire oneself out'. Perhaps related to the homophonous **leh$_1$d-* 'leave, let'. Cf. NE *let* (< **leh$_1$de/o-*), Alb *lë* (< **l̥h$_1$d-ne/o-*) 'leave, let, abandon, allow', and surely Lith *leidmi* 'let in/out, let go; issue' though the *-i-* of the latter form is difficult. Without the **-d-* we have the underlying **leh$_1$-ei̯e/o-* in Hit *lā(i)-* 'let go, allow'. As a word meaning 'grow slack, become tired' it is widely attested, though perhaps significantly not at the extremes of the IE world. Probably dialectal in late PIE and largely supplanting the previous word.

kl̥h$_x$m(-s)- 'be fatigued, sleepy'. [VW 218–219]. OInd *klām(y)ati* 'be(come) weary, fatigued', *klāntá-* 'fatigued', TochA *klis-* 'sleep', TochB *klänts-* 'sleep' (< Proto-Toch **kläns-*). A word of the east of the IE world.

streug- 'be fatigued, exhausted'. [VW 441]. Grk **στρεύγομαι** 'am exhausted, worn out; suffer distress', TochA *sruk-* 'kill' (historically the causative), TochB *sruk-* 'die'. Though restricted to two stocks, the geographical distribution of the reflexes strongly suggests at least late PIE status for this word.

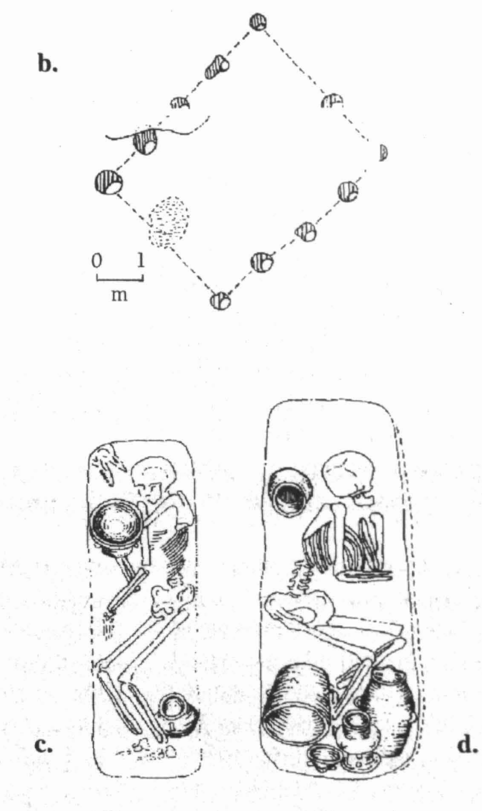
See also SICK; SLACK; SLEEP; SOFT; WEAK. [D.Q.A.]

TISZAPOLGÁR CULTURE

The Tiszapolgár culture forms the early Copper Age culture of eastern Hungary and eastern Slovakia (*c* 4400–3700 BC).



Tiszapolgár a. Distribution of the Tiszapolgár culture.



Tiszapolgár b. House plan from Kenderes-Kulis, Hungary; c. Male burial on right side with mandible of domestic boar at head and pottery; d. Female burial on left side with pottery.

Settlements are found generally in the lowland plains. Domestic architecture is not well known but does show evidence of small (*c* 4 or 5 m long) rectangular houses, hearths, pits, and querns. It has been suggested that the houses, post built with mud walls, were perhaps less substantial than the earlier Neolithic houses of the same region. Moreover, while Neolithic settlements showed longer term settlement, those of the Tiszapolgár culture show thinner occupation layers and no evidence for defensive architecture.

The agricultural economy of the culture is not well attested but the remains of domestic animals include cattle, ovicaprids and pig as well as dog while the hunted animals include red deer, roe, aurochs and wild pig. Remains of brown hare are recovered from graves.

The culture produced a wide variety of ceramics and stone implements. More impressive were the copper shaft-hole axes and occasional gold pendants.

The primary evidence for the culture relates to its burials which occur both in settlements and cemeteries. The typical form of grave was flexed burial in a pit. Sex was marked with males buried on their right sides while females were buried on their left. This practice is found elsewhere in Europe, e.g., the later Corded Ware culture, and in Asia, e.g., the Tazabagyab, Bishkent, Vakhsh, and Swāt cultures. All of these other cultures are generally identified as linguistically Indo-European. Grave goods consisted of pottery, copper tools and ornaments, obsidian tools, boar tusks and mandibles (typically found with males), stone and antler axes (males), dog burials (mainly males) and beads (females).

According to the "Kurgan model" of IE expansions, the Tiszapolgár culture represents a final "Old European", i.e., native non-IE culture, which collapsed in the face of Kurgan intrusions. On the other hand, those who seek the IE homeland either in Anatolia with the spread of the Neolithic economy or in central Europe would identify the Tiszapolgár culture as part of the IE continuum. That the culture shows a strong sexual dimorphism in burial ritual, typical of other cultures commonly identified as Indo-European, and an apparent decrease in stable settlement, all suggest patterns of social and economic change that have been variously attributed to local processes and steppe intrusions.

See also BODROGKERESZTÚR CULTURE. [J.P.M.]

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TO

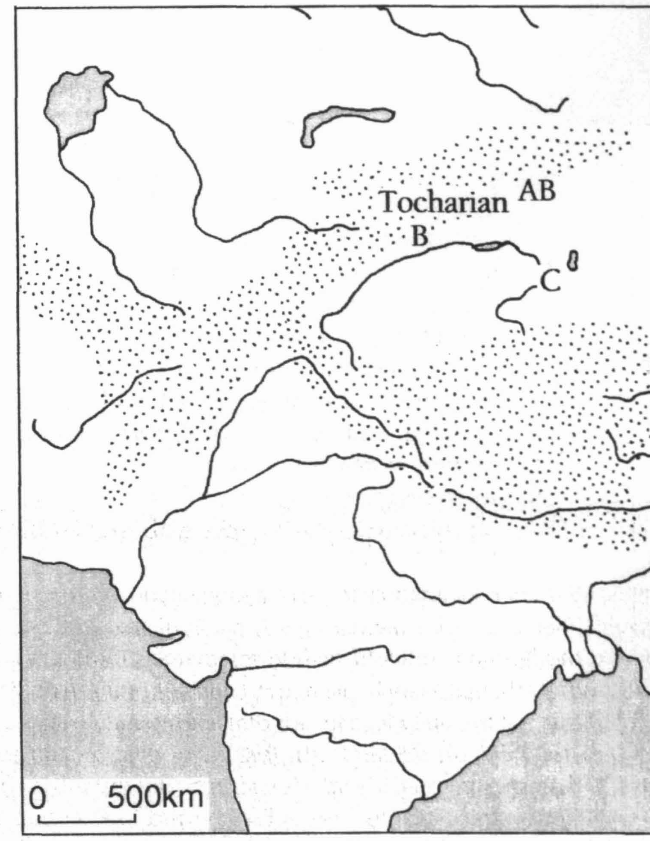
$h_a$ed 'at, to'. [*IEW* 3 (**ad*-); Wat 1 (**ad*-)]. OIr *ad*- (preverb), OWels *ad* 'to', Wels *add*- (prefix), Lat *ad* 'at, to', ON *at* 'at, to', OE *æt* 'at, to' (> NE *at*), OHG *az* 'at, to', Goth *at* 'at, to', Phryg *αδ*- 'to'. Widespread and old in IE.

do ~ ***de*** 'to, toward'. [*IEW* 181–183 (**de*- ~ **do*-); Wat 10 (**de*-)]. OIr *do* ~ *du* 'to', OLat *en-do* 'in', Lat *dō-nec* 'up to', OE *tō* 'to' (> NE *to*), OHG *zuo* 'to', Goth *du* 'to, towards' (with *d*- rather than *t*- because it always occurred in an unstressed syllable), Lith *da* 'up to', Latv *da* 'up to', OCS *do* 'up to,' Grk -*δε* 'toward', Av -*da* 'to'. Old in IE.

See also ADPREPS; AWAY. [D.Q.A.]

TOCHARIAN LANGUAGES

Tocharian is the name given, more than a little arbitrarily, to two languages once spoken in what is now the Chinese province of Xinjiang in northwestern China. They are chiefly known to us from the remains of their literatures brought to light by Prussian, French, Japanese, and Anglo-Indian archaeological expeditions into this part of China in the two decades immediately preceding the First World War. The Tocharian documents are datable from the sixth through eighth centuries of our era. What we have are rarely whole documents but rather typically single leaves of manuscripts originally brought as votive offerings to the various Buddhist shrines in and around the inhabited area. There they were left and subsequently were covered by the desert sands and preserved in the almost rainless environment. Aside from this Buddhist religious literature, almost always translations from Buddhist Hybrid Sanskrit, the language of Mahayana Buddhism, there are also remains of medical, commercial, and legal documents.



Tocharian I The three branches of the Tocharian stock. Tocharian A (Agnean or East Tocharian) is known from Qarashahr and Turfan; Tocharian B (Kuchean or West Tocharian) is found at Kucha and also in Tocharian A territory; traces of a third Tocharian language, here designated Tocharian C, have been recovered from the Loulan in the south of the Tarim basin.

The two languages were spoken along the northern rim of the Tarim Basin. Tocharian A (also called "Agnean" or "East Tocharian") is attested in documents of the regions of Qarashahr ("Agni" in Old Indian, Yenqi in Chinese) and Turfan in the center of Xinjiang. Remains of Tocharian B are also found in those areas and also further west, from around Kucha (whence the alternate name "Kuchean" or "West Tocharian"). Already in 1908 there was enough known about these languages to make it certain that linguists were dealing with Indo-European languages of a heretofore unknown group, e.g., Lat *pater* 'father', *māter* 'mother': TochA *pācar, mācar*, TochB *pācer, mācer*. Early investigators labeled this new group as "Tocharian" under the assumption that their language was the same as that spoken by the Tocharoi who in the first half of the second century BC era were driven by the Hsiung-nu from Gansu in western China. After crossing Xinjiang, they settled in southern Kazakhstan and adjacent areas. In subsequent centuries, under the leadership of one of their subtribes, the Kushans, the Tocharoi settled in Bactria and eventually conquered a large area of northern India. In Chinese historical records the Tocharoi are referred to as the Yuezhi. The evidence for the identification of the Tocharoi with the "Tocharians" is meager though not wanting altogether but the identification is more usually than not rejected. However, in the absence of any better name, the designation has stuck.

It is clear that Tocharian B was the language of the kingdom of Kucha, used for both administrative and ordinary literary purposes. It was apparently used as a liturgical language both in the Kuchean kingdom and further east where it is found side by side with Tocharian A. Nowhere are Tocharian A documents found by themselves and no Tocharian A documents other than those of a religious content have been found. A few Tocharian A documents are glossed in Tocharian B and/or an early form of Uighur (the Turkish language spoken by the contemporary inhabitants of Xinjiang). These facts have led to the supposition that Tocharian A was no longer a spoken language but rather preserved only as a liturgical language of a population that itself spoke Uighur and that even as a liturgical language it was in competition with Tocharian B.

Comparing Tocharian A and B it is clear that the latter is the more conservative representative of proto-Tocharian. Tocharian A has lost all Proto-Tocharian final vowels, with the consequence that a very large number of words are one syllable shorter than their Tocharian B counterparts and the loss of the final syllable, where so much of the inflectional morphology was located, has had a significant impact on the shape of the language's morphology, particularly that of nouns.

On the southern edge of the basin, across uninhabitable desert from the areas where Tocharian A and B are found, in the Loulan (natively Kroraina) area, we find traces of another small kingdom whose administrative language was a variety of Middle Indic (Kharoṣṭhī Prakrit) but whose native language, attested in the form of a few loanwords in the Middle Indic administrative language, looks to have been a third Tocharian language, "Tocharian C" if you will.

Though geographically closest to Indic and Iranian, from which both Tocharian languages have borrowed heavily in the area of religious and other technical vocabulary, the Tocharian languages do not seem to be particularly closely related to them. Surprisingly Tocharian seems to share more vocabulary with Germanic than with any other Indo-European stock and in general its lexical and morphological closest kin seem to be with the western Indo-European languages rather than with those of the eastern rim. However, the number of special relationships that Tocharian shows with any other Indo-European stock is small and this relative lack of shared innovations with other groups suggests that from a very early time the pre-Tocharian dialect(s) of Proto-Indo-European may have occupied a somewhat isolated position vis-à-vis other late Proto-Indo-European groups. If one wishes to emphasize the "western" connections, then the population movements that brought the pre-Tocharians to their historical locations seem to have required a migration from a relatively western location vis-à-vis the center of the Proto-Indo-European group to its far eastern edge, whatever that might mean in terms of actual geography.

Description

From the phonological point of view Tocharian is distinctive in the merger of all three manners of stops (voiceless aspirated, voiceless unaspirated, and voiced aspirated) in a single series of voiceless unaspirated stops. Many IE stocks merge the voiced aspirated and voiced unaspirated stops but only Tocharian and Anatolian merge all three and in Anatolian the merger is not complete in word-internal position. Tocharian also merges palatals, velars, labio-velars, and palatals + *-u̯-* as a set of plain velars. The only exception to this general merger is in final syllables where the labio-velars and velars + *-u-* remain distinct as *-k^w-*. Thus **ḱ, *ĝ, *ĝh, *k, *g, *gh, *k^w, *g^w, *g^{w}h, *ḱu̯, *ĝu̯, *ĝhu̯*, all become Tocharian *k* in most instances. Tocharian is further characterized by the palatalization of both dentals and tectals (palatals, velars, and labio-velars) before PIE front vowels; on the other hand, in the absence of front vowels, Tocharian behaves as a centum language, e.g., TochB *kante* 'hundred', unlike its Indo-Iranian neighbors. Tectals appear as *ś* in this position when palatalized while PIE **d* and **dh* appear as Tocharian *ts*, and PIE **t* appears as *ts* before PIE **i̯* and as *c* elsewhere. The different fate of PIE **t* when palatalized means that palatalization must have preceded the merger of the three manners of stops. Somewhat later in this history of Tocharian PIE **i, *e*, and **u* merge as Tocharian *ä* (appearing as *a* when stressed in Tocharian B) and **ē* (< **ē* or **eh$_1$*) and **o* merge as Proto-Tocharian **e* (TochB *e*, TochA *a*). The most common developments of PIE sounds in Tocharian are given in the accompanying table.

While the phonological system of Tocharian shows significant innovations in comparison with its PIE ancestor, other parts of the grammar have been quite conservative. Tocharian merges the inherited neuter with the masculine in the singular and the feminine in the plural and like Germanic proliferates *n*-stems enormously. Late in its history original postpositions become phonologically attached to the preceding noun as a new set of case endings. In the verb the imperative is innovatively marked with a prefix *pä-* and unlike most IE groups the second person singular ending of the verb shows a *-t-* rather than an *-s-*. However, both noun and verb preserve the three-way PIE distinction of singular, dual, and plural. The noun preserves, at least in part, five of the eight PIE cases (namely: nominative, accusative, genitive, ablative, and vocative) and the verb shows three of the PIE moods (nominative, optative, and imperative), two of the PIE aspects ("present" and aorist; the PIE perfect is represented by the Tocharian past participle), and two PIE tenses (present and past, the latter from the PIE aorist past, along with rebuilt traces of the PIE imperfect).

Tocharian Origins

The earliest certain evidence for the Tocharians derives from their own records of the sixth century AD. Chinese historical records, which report no ethnic or linguistic changes during the previous seven hundred years, allow the linguistic situation of the sixth century AD to be projected back to at least the end of the second century BC. Any attempt to establish a still greater antiquity requires certain assumptions, e.g., the fact that the two surviving representatives of Tocharian are markedly different and would require (presumably) an extended period of separation after the formation of the Proto-Tocharian stock; some have estimated *c* 1000 years, but this time-depth is by no means certain nor is it certain that this differentiation necessarily took place in Xinjiang. Also, the Tocharians have frequently been identified in Chinese historical sources as a people known as the Yuezhi and references to the Yuezhi, situated according to Chinese documents north of the main bend of the Yellow River and south of the Altai, go back to about the fifth century BC.

Unlike most other extinct groups of IE speakers, we are particularly fortunate with regard to the Tocharians in one respect. There is graphic representation of their appearance in caves in Kucha (Qizil and Qumtura) that served as Buddhist

Proto-Indo-European and Tocharian Phonological Correspondences

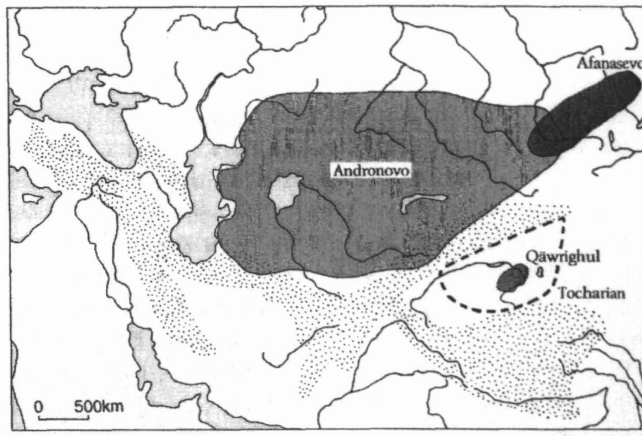
PIE		TochB	PIE	TochB
*p	>	p	*ph_atḗr 'father'	*pācer* 'father'
*b	>	p	*dhubrós 'deep'	*tapre* 'high'
*bh	>	p	*bhére/o- 'carry'	*pär-* 'carry'
*t	>	t ~ c	*tritos 'third'	*trite* 'third'
			*tékos 'running water'	*cake* 'river'
*d	>	t ~ ts ~ ø	*duh_xeh_a- 'burn'	*twā-* 'kindle'
			*deme/o- 'build'	*tsäm-* 'grow'
			*dóru 'tree, wood'	*or* 'wood'
*dh	>	t ~ ts	*dhu̯oros 'door'	*twere* 'door'
			*dheiĝh- 'shape, mold'	*tsik-* 'shape, build'
*k̂	>	k ~ ś	*k̂m̥tóm 'hundred'	*kante* 'hundred'
			*k̂ēuke/o- 'call'	*śauśäṃ* 'calls out'
*ĝ	>	k ~ ś	*ĝonu̯ih_1 'knees'	*keni* 'knees'
			*ĝénu- 'jaw'	TochA *śanweṃ* 'jaws'
*ĝh	>	k ~ ś	*ĝhu̯onos 'sound'	*kene* 'melody'
			*ĝhu̯ēri̯e/o- 'hunt'	*śerītsi* 'to hunt'
*k	>	k ~ ś	*krupii̯os 'rough'	*kärpiye* 'common'
			*kēuke/o- 'call'	*śauśäṃ* 'calls out'
*g	>	k ~ ś	*leg- 'collect'	*läk-* 'see, look'
			*ger(h_a)ōn- 'aged'	*śrān-* 'old'
			*geuli$h_1$en- 'possessing coals'	*śoliye* 'hearth'
*gh	>	k ~ ś	*loghos 'lying place'	*leke* 'bed'
			*leghe/o- 'lie'	*lyaśäṃ* 'lies'
*k^w	>	k ~ ś ~ kw	*k^wók^wlos 'wheel'	*kokale* 'wheel'
			*k^wetu̯óres 'four'	*śtwer* 'four'
			*sok^wós 'juice, sap'	*sekwe* 'pus'
*g^w	>	k ~ ś ~ kw	*g^wóu- 'cow'	*keu* 'cow'
			*g^wéneh_a 'woman'	*śana* 'wife'
*g^wh	>	k ~ ś ~ kw	*g^whn̥-sk̂e/o- 'strike'	*käsk-* 'scatter apart'
*s	>	s ~ ṣ	*so 'this, that'	*se* 'such'
			*sélpos 'fat'	*ṣalype* 'grease, ointment'
*i̯	>	y	*i̯ebhe/o- 'enter'	*yäp-* 'enter, set (of sun)'
*u̯	>	w ~ (TochB) y	*u̯isos 'poison'	*wase* 'poison'
			*u̯é$h_1$ntos 'wind'	*yente* (TochA *want*) 'wind'
*m	>	m	*méh_atēr 'mother'	*mācer* 'mother'
*n	>	n ~ ñ	*nū 'now'	*no* 'however'
			*néu̯os 'new'	*ñuwe* 'new'
*l	>	l	*lóghos 'lying place'	*leke* 'bed'
*r	>	r	*$h_1$rudhrós 'red'	*ratre* 'red'
*n̥	>	an/än	*dn̥g^wheh_a- 'tongue'	*kantwo* 'tongue'
*m̥	>	am/äm	*k̂m̥tóm 'hundred'	*kante* 'hundred'
*l̥	>	al/äl	*tl̥neh_2- 'raise'	*tallaṃ* 'raises'
*r̥	>	ar/är	*k̂r̥di̯eh_a- 'heart'	*käryā-* 'heart, will'
**i*	>	*(y)a/(y)ä* ~ a/ä	*ĝhim-reh_a- 'winter'	TochA *śärme* 'winter'
			*u̯isós 'poison'	*wase* 'poison'
*e	>	(y)a/(y)ä	*$h_1$ék̂u̯os 'horse'	*yakwe* 'horse'
*ē	>	*(y)e*	*ĝhu̯ēri̯e/o- 'hunt'	*śerītsi* 'to hunt'
*a	>	*ā*	*h_aeĝe/o- 'drive'	*āk-* 'drive'
*ā	>	*ā*	*méh_atēr 'mother'	*mācer* 'mother'
*o	>	e	*ĝómbhos 'peg, tooth'	*keme* 'tooth'
*ō	>	*ā*	*dhoh$_x$neh_a- 'grain'	*tāno* 'seed'
*u	>	*a/ä*	*dhubrós 'deep'	*tapre* 'high'
*ū	>	*o*	*nū 'now'	*no* 'however'
*h_1	>	ø	*h_1ēdsto- 'meal'	*yesti* 'meal'
*h_2	>	ø	*$h_2$eu$h_2$os 'grandfather'	*āwe* '± grandfather'
*h_3	>	ø	*h_3ók^w 'eye'	*ek* 'eye'
*h_4	>	ø	*$h_4$órĝhis 'testicle'	*erk* 'testicle'

shrines. These depict tall individuals with red or blond hair, blue or green eyes, wearing the garb of the Iranian-speaking Sassanians and armed with broadswords. These descriptions also match Chinese descriptions of the Yuezhi who are themselves portrayed on statues for the first century BC from Khalchayan in Bactria as light-haired and blue-eyed.

The unquestionable evidence for European intrusions into the province of Xinjiang has been abundantly augmented by the remains of over a hundred naturally preserved mummies of a Europoid or, at least, Caucasoid physical type. The earliest of these mummies have been dated to *c* 2000 BC. The archaeological context for at least some of the Europoid burials is the Qäwrighul culture (*c* 2000 BC) whose burials in shaft-graves, lined with timber or stone, and surrounded by enclosures bear some broad resemblance with Copper Age and Bronze Age cultures of the Eurasian steppe. Moreover, the presence of offering-places associated with the heads and legs of horses has direct parallels with steppe cultures. These links, however, are more broadly generic rather than specific with any particular culture and so the question of the origin of the recently defined Qäwrighul culture itself must still remain open.

One might expect that the identification of a Caucasoid or Europoid physical type might secure the earliest identification of Indo-Europeans in western China but the matter is more complicated. In addition to the evidence of the mummies we also have human skeletal remains retrievable from burials from *c* 2000 BC onwards and these are believed to reflect several types of Caucasoids, the earliest reputedly bearing the greatest similarity with populations of the steppe-lands from the Ukraine across Siberia; later populations show greater similarities with prehistoric populations of Central Asia. There were thus several movements of Europoid populations into Xinjiang and this is hardly unexpected as the region was not only occupied by Tocharian-speakers but also by Iranian- (Khotanese Saka) and some Indic- (Karoṣṭhī Prakrit) speakers. For the most part, the mummies themselves are distributed both temporally and spatially in regions where one might expect Tocharians although some of the earliest mummies predate our historical records by up to two thousand years and their linguistic identity can hardly be secure. Genetic analysis of the Xinjiang mummies is still in its infancy but does indicate that the mummies reflect the same DNA patterns found among the earliest stratum of European populations. The earliest evidence of the Mongoloid physical type in this part of Xinjiang is set to *c* 1000 BC and it would appear that the ancestors of the Tocharians were probably in the Tarim Basin prior to the expansion of the Chinese into the same region.

Associating the arrival of the Tocharians with a specific archaeological culture is extremely difficult. The mummies, for example, are generally unaccompanied by metal artifacts and their own cultural milieu as well as that of the historical Tocharians is simply too poorly known to posit connections with cultures outside of Xinjiang. The employment of twill in the weaving of the textiles associated with the mummies points to more westerly connections but this could involve distant connections anywhere from the Caucasus to western Europe.



Tocharian II Tocharian territory is indicated with the broken line. The Qäwrighul culture offers a possible candidate for Proto-Tocharian in the second millennium BC. Potential outside archaeological sources for the Tocharians might include the Andronovo culture and the earlier Afanasevo culture.

Although the Tocharians are not closely associated with the Indo-Iranians, the origins of the latter cannot be entirely disassociated from Tocharian origins. Contacts between the two language stocks seem to be quite late, i.e., no earlier than the first millennium BC, e.g., Old Persian- or Prakrit-Tocharian loans, or more recent. Almost all discussions of Indo-Iranian origins would locate the staging area of their migrations in the steppe and forest-steppe of Kazakhstan and western Siberia in the period *c* 2000 BC. This was the period during which the steppe was occupied by the Andronovo culture, a broad cultural horizon of various cultures who were primarily engaged in mobile stockbreeding. It is possible that the ancestors of the Tocharians may have been part of the Andronovo culture, the sites of which are found on the western highland approaches to the Tarim Basin; however, the absence of loanwords between early Indo-Iranian and Tocharian does not provide any linguistic support for such a hypothesis.

One of the ways of maintaining an early linguistic separation between Tocharians and Indo-Iranians within an archaeological context is by associating the ancestors of the Tocharians with the Afanasevo culture (*c* 3500–2000 BC) of the Altai-Yenisei region. The culture has often been derived from west of the Urals because of the Europoid physical type of its population, its employment of mixed stockbreeding (cattle, sheep, possibly horse), some evidence for wheeled vehicles, and ceramic forms (pointed-based vessels, censers). In one model, the Afanasevo culture would be seen as the initial expansion of a mixed stockbreeding-agricultural society across the eastern steppe in the advance of the later Andronovo (?Indo-Iranian) culture which then replaced it. There are also

some tenuous connections between the Afanasevo culture and western China. If these should be strengthened, we may have a model for the earliest Indo-European movements into Xinjiang. But even here, it must be noted that not all archaeologists accept the derivation of the Afanasevo culture from the west and if it should prove to have a purely local origin or be more closely related to cultures of Central Asia, other solutions to the problem of Tocharian origins would have to be devised.

See also INDO-EUROPEAN LANGUAGES; QÄWRIGHUL CULTURE. [D.Q.A., J.P.M.]

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TODAY

?*h$_3$o-di̯ē 'today'. [Del 297]. Lat *hodiē* 'today', OInd *a-dyā́* 'today'. Temporal adverbial; Lat *hodiē* is based on the composition of a demonstrative pronoun and the ablative case of 'day', viz. *h-o-diē* while the Old Indic form joins an adverbial particle with an old instrumental (**a-dyavi*) 'on this day'. Independent formations and not reconstructible for PIE.

See also TIME. [P.B.]

TONGUE

***dn̥ĝhuh$_a$-** 'tongue'. [*IEW* 223 (**dn̥ĝhū*); Wat 15 (*dn̥ghū-*); GI 714 (**t'n̥g^{h}uH-*); Buck 4.26]. OIr *tengae* 'tongue', MWels *tafawt* 'tongue', OLat *dingua* 'tongue', Lat *lingua* 'tongue', Osc *fangvam* 'tongue', ON *tunga* 'tongue', OE *tunge* 'tongue' (> NE *tongue*), OHG *zunga* 'tongue', Goth *tuggō* 'tongue', OPrus *insuwis* 'tongue', Lith *liežùvis* 'tongue', OCS *językŭ* 'tongue', Rus *jazýk* 'tongue', Arm *lezu* 'tongue', Av *hizū-* 'tongue', OInd *jihvā́* 'tongue', TochA *käntu* 'tongue', TochB *kantwo* 'tongue'. The loss of *d-* before **-n̥-* is probably regular in Baltic and Slavic. In Tocharian we have metathesis (**käntwo* < **tänkwo*) while in Lithuanian, Armenian, and possibly Latin we have the initial rebuilt by influence of various words for 'lick'. The Celtic words reflect an initial **sd-*. The remodeling in Indo-Iranian is more difficult. In any case a very strong candidate for PIE status.

See also EAT AND DRINK; MOUTH. [D.Q.A.]

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TOOL

***k$^{(w)}$r̥u̯is** '± tool'. [*IEW* 938–940 (**(s)ker-*); BK 246 (**k[^{h}]ar-/*k[^{h}]ər-*)]. Lith *kir̃vis* 'ax', Rus *červ́ʹ* 'sickel', OInd *kr̥vi-* 'weaving instrument'. A word of the center and east of the IE world whose various meanings offer little scope for precise semantic reconstruction. From **k^{w}er-* 'do, make' or possibly **(s)ker-* 'cut'.

See also AUGUR; AWL; AX; CLUB; CRAFT; CUT; HANDLE; HOOK; KNIFE; MAKE; NET; OAR; PIN; PLOW; QUERN; RAZOR; REINS; SICKLE; SLING; SPEAR; SWORD; TORCH; WEDGE; WHEEL; WHETSTONE; YOKE. [D.Q.A.]

TOOTH

***h$_1$dónt-** 'tooth'. [*IEW* 289 (**edont-*); Wat 11 (**dent-*); GI 714 (**(e)t'ont^h-*); Buck 4.27; BK 418 (**at'-/*ət'-*)]. OIr *dét* 'tooth', Wels *dant* 'tooth', Lat *dēns* 'tooth', ON *tǫnn* 'tooth', OE *tōþ* 'tooth' (> NE *tooth*), OHG *zand* 'tooth', Goth *tunþus* 'tooth', OPrus *dantis* 'tooth', Lith *dantìs* 'tooth', Rus *desná* (< Proto-Slavic **dęt-snā*) 'gum', Grk ὀδών 'tooth' (Aeolic ἔδοντες 'teeth'), Arm *atamn* 'tooth', Av *dantan-* 'tooth', OInd *dánt-* 'tooth'. The oldest reconstructible word for 'tooth' in IE. In origin the participle of **h$_1$ed-* 'eat', cf. Hit *adant-* 'eaten'.

***ĝómbhos** 'tooth, set/row of teeth; peg'. [*IEW* 369 (**ĝombho-s*); Wat 19 (**gembh-*); GI 714 (**k'em-b^h-*); Buck 4.27; BK 280 (**k'am-/*k'əm-*)]. ON *kambr* 'comb', OE *camb* 'comb, crest' (> NE *comb*), OHG *kamb* 'comb', Lith *žam̃bas* 'edge, brim', Latv *zùobs* 'tooth', OCS *zǫbŭ* 'tooth', Alb *dhëmb* 'tooth, tusk', Grk γόμφος 'large wedge-shaped bolt or nail', OInd *jámbha-* 'tooth', TochA *kam* 'tooth', TochB *keme* 'tooth'. Cf. **ĝembh-* '± show the teeth, snap at, bite' if this latter verb is not itself semantically a backformation from **ĝómbho-* 'tooth'. A newer word than **h$_1$dónt-*, but clearly of PIE date.

See also ANATOMY; EAT AND DRINK; MOUTH. [D.Q.A.]

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TORCH

ĝhu̯áks 'torch'. [*IEW* 495 (**ĝhu̯ōku̯-*)]. Lat *fax* (~ *facēs*) 'torch', *facētus* 'fine, courteous, polite' (< *'shining'), Lith *žvãkė* 'candle'. The underlying verb is to be seen in Alb *dukem* (< **ĝhuk-e/o-*) 'appear, am visible, show up', Grk (Hesychius) ***διαφάσσειν*** (< **-ĝhu̯ak-i̯e/o-*) 'show through, be transparent'. A word of the west and center of the IE world.

See also SHINE; TOOL. [D.Q.A.]

TORTOISE

ghéluh$_x$s 'tortoise'. [*IEW* 435 (**ghel-ōu-*); Wat 22 (**ghelū-*); GI 451 (**g^{h}el-u-*)]. OCS *žely* (gen. *želŭve*) 'tortoise', Rus *žólvi* 'tortoise' (obsolete in NRus), *želvák* 'tumor' (< *'hard lump under the skin'), SC *žȅlva* 'tortoise', Grk *χέλυς* ~ *χελύνη* 'tortoise'. By its distribution, at least a word of the center of the IE world. The morphological shape (a noun in **-uh$_x$-*) is quite old in IE; therefore, it is likely that this word was once pan-IE. It should be noted that the word generally refers to the 'tortoise' or *Testudo* rather than the marine variant, i.e., the 'turtle'.

The tortoise or turtle has been employed in early debates on the IE homeland since its northern distribution was limited to areas south of Scandinavia and northern Germany which had been once advanced as homeland territories. The tortoise is known from the TRB culture of northern Europe and in Neolithic contexts from Latvia and Estonia. Its value for resolving the IE homeland problem is minimal at best.

See also ANIMAL. [D.Q.A.]

TOUCH

tag- 'touch'. [*IEW* 1054–1055 (**tag-*); Wat 69 (**tag-*); GI 371; Buck 15.71; BK 100 (**t[^{h}]ak'-/*t[^{h}]ək'-*)]. Lat *tangō* 'touch', *integer* 'undamaged' (< *'untouched'), *tagāx* 'thievish', *taxim* 'secretly', *taxō* 'estimate, assess', OE *þaccian* 'touch lightly, stroke', Grk *τεταγών* 'seizing'. At least a word of the west and center of the IE world.

deg- 'touch' (pres. ***dógei*** ~ ***dége/o-***). [Buck 11.13]. ON *taka* 'touch, take, seize', Goth *tēkan* 'touch', TochB *täk-* 'touch' (TochB pres. *cek-*, subj. *tek-*). The exact morphological match of ON *taka* and TochB *tek-* and Goth *tēkan* and TochB *cek-* would seem to guarantee at least a late PIE status for this word.

mḷḱ- 'touch lightly'. [*IEW* 724 (**melk-*); Del 269]. Lat *mulceō* 'stroke, touch lightly, fondle', OInd *mṛśáti* 'strokes, touches'. Though not widely attested, the geographical distribution of that attestation strongly suggests PIE status.

klep- '± lay hand to'. [*IEW* 604 (**ḱlep-*); Wat 31 (**klep-*); Buck 11.56; BK 266 (**k[^{h}]al^y-/*k[^{h}]əl^y-*)]. Pres. **klépi̯e/o-* in Grk ***κλέπτω*** 'steal', TochB *kälyp-* 'steal'; cf. TochB *klepe* '± theft'. Other presents: Goth *hlifan* 'steal', OPrus *auklipts* 'concealed', TochB *kälp-* 'find, get, achieve, obtain', *klyep-* '± touch (with the hands), investigate, test'. Cf. also OE *hælftre* 'halter' (> NE *halter*), OHG *halftra* 'bridle', OE *helma* 'rudder, tiller' (> NE *helm*), *hielfe* 'handle'. Reasonably widespread, certainly in PIE.

ghrei- 'touch lightly, graze (the surface of)'. [*IEW* 457 (**ghrēi-*); Wat 23 (**ghrēi-*)]. Lith *gr(i)ejù* 'skim (cream)', Grk ***χρίω*** 'touch the surface of a body lightly, graze; (hence) rub or anoint (with oil), coat with color'. A word of the center of the IE world. The Germanic words sometimes adduced here, OE *grīma* 'mask, helmet; ghost', MDutch *grīme* 'dirt', seem semantically very distant.

See also STEAL. [D.Q.A.]

TRACK

pedom 'footprint, track'. [*IEW* 791–792 (**pedo-m*); cf. Wat 47 (**ped-*); GI 237 (**p^{h}et'-om*); BK 44 (**p[^{h}]at'-/*p[^{h}]ət'-*)]. MIr *ined* (*DIL inad*)(< **eni-pedo-*) 'position, place, trace', Osc *perum* 'ground', ON *fet* 'step', Lith *pėdà* 'footprint', Lat *peda* 'sole, footprint', OCS *podŭ* 'ground', Grk ***πέδον*** 'ground', Arm *het* 'footprint, track', Hit *pēdan* 'place', Av *paδəm* 'track', OInd *padám* 'track', perhaps TochA *päts* 'bottom', TochB *pätsa* 'bottom' (if < **pedeh$_a$-*). From **ped-* 'foot'. PIE status.

See also FOOT. [A.D.V.]

TRANSFUNCTIONAL GODDESS

Although there is no linguistic evidence to posit the existence of a PIE transfunctional goddess, a female figure who provides support to the three estates of the priesthood, warrior and herder-cultivator, there is abundant structural evidence of such a figure among various IE peoples.

The Indic Devī (OInd *devī*, 'female deity') was a transfunctional goddess. She represented wisdom (*Devīmāhātmyam* 3.11), and warrior power (*Devīmāhātmyam* 3.42 *et passim*); in fact, her teeth became red after she devoured her enemies (*Devīmāhātmyam* 11.44-45). She also had control over conception (*Devīmāhātmyam* 1.75). Various Indic goddesses: Lakṣmī, Alakṣmī, Umā, Pārvatī, Durgā, Kālī, and Sarasvatī are subsumed into Devī, according to Tantric philosophy. Her pre-Indo-European origins are reflected in bird and snake iconography; she rode in a chariot yoked to swans (*Devīmāhātmyam* 11.13) and she carried a snake (*Devīmāhātmyam* 11.14). It must be noted that this ascendancy of a female deity in no way reflects a gynocentric society, for Devī grants 'wealth, sons...and prosperity' (*Devīmāhātmyam* 12.41).

Devī was born from the united light which emanated from the bodies of the major Indic deities. Each gave her an attribute: weapons, jewels, the lotus, lions, and armor. Thus armed, Devī saved the world from the enemies of the deities. One may compare Lakṣmī, who gave each of her attributes to a different deity, and the Greek Pandōrā, the 'all-giver' or the 'gift of all'.

The Iranian goddess Arədvī Sūra Anāhitā, 'the moist (or 'flowing'; cf. OInd *ṛd-* 'to flow') one, the strong one (OInd *śūra* 'strong', heroic'; cf. OIr *caur* 'warrior'), the pure one (OInd *an-āhitā* 'without a stain')' was invoked in the *Avesta* and in Iranian inscriptions dating to c 400 BC. Anāhitā was a transfunctional goddess who bestowed wisdom upon the priests,

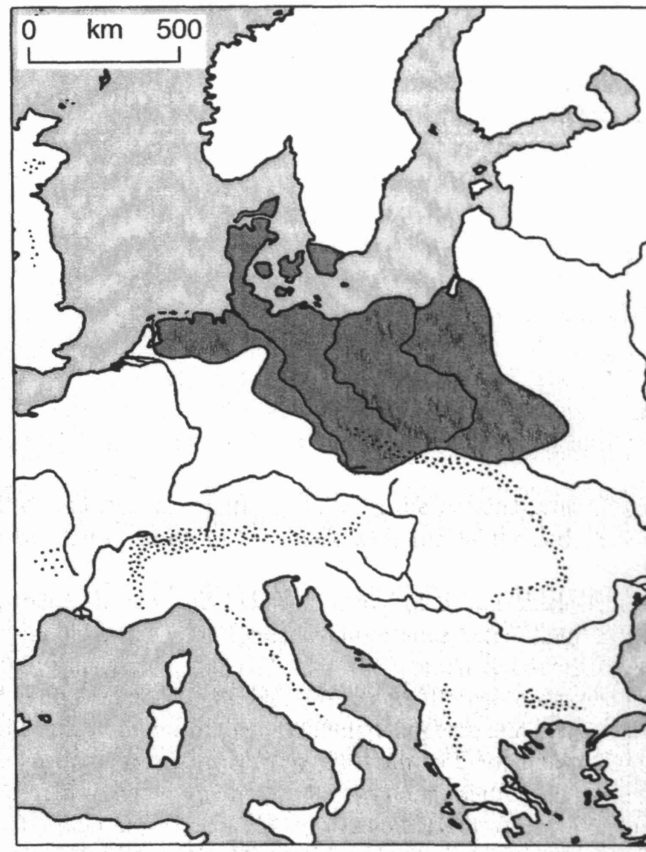
valor upon the warriors, and fecundity upon all others. She was a river goddess, personified as a woman of great beauty. She is particularly invoked in *Avesta*, Yašt 5. In Old Persian inscriptions dating from the reign of Artaxerxes II (405–359 BC), Anāhitā was named second only to the supreme god, Ahura Mazdāh.

Athēnē was the Greek goddess of wisdom and craft, and she brought victory in war. She was not Proto-Indo-European in origin; she has the greatest affinity with Near Eastern warrior goddesses such as the Syrian Anat. According to Hesiod (*Theogony* 924), she was born from the head of Zeus, after the god had swallowed his wife Mētis 'wisdom, counsel'. The transfunctional Athēnē was invoked in inscriptions as Hygieia 'health', Polias 'guardian of the *polis*', and Nikē 'victory'. Although she was a virgin, she was invoked by women who wished to conceive, as 'Mother'. She won the patronage of Athens by participating in a contest with the Water god Poseidōn. Each gave a gift to the city: Poseidōn, a well of sea-water; Athēnē, the olive-tree. The Athenians voted, and decided that the olive-tree was of greater importance. According to St Augustine (*De Civitate Dei*, 18.9) the women voted for Athēnē, who won the contest by a single vote. Poseidōn was angry with the outcome of the vote, and, to appease him, the right to vote was taken away from Athenian women, along with the right to confer their names upon their children.

Roman Minerva (= Greek Athēnē) was goddess of wisdom, handicraft, and war, particularly strategic war; she was born fully armed from the head of Jūpiter, her father. Minerva became part of the Roman state triad: Jūpiter, Jūnō, Minerva. In Etruscan inscriptions, which may be the oldest attestations of this goddess, Minerva is called Menrva, Menerva, or Menarva. When associated with Mārs, Minerva was called Neriō (cf. Porphyrion, *Commentum in Horatium Flaccum*, Epistles II.2.209), a name which may be cognate with Germanic *Nerthus*, Greek *ἀνήρ*, OInd *nara-*, 'man'. The term means 'strength' and hence 'manly strength, heroic man'. Plautus (*Truculentus* 515) calls Neriō the wife of Mārs. Neriō, just as Minerva, represented the one who inspires the power to fight.

Irish tradition is replete with examples of trifunctional goddesses although here they are generally deconstructed into different divinities representative of their constituent functions. That this deconstruction is precisely the process that has occurred is most easily seen in the history of the three Machas, divine figures all bearing the same name but whose careers reflect different aspects of the transfunctional goddess. The first Macha was the wife of Nemed, one of the earliest settlers of Ireland, and was herself a prophetess. The second Macha (Macha Mongruad) vied for the kingship of Ulster defeating her male opponents and was known as a warrior (and also one of the battle-goddesses). The final Macha (Macha Sanraith) came to live with the widower Crunniuc and brought him prosperity. In a striking parallel with the Indic tradition, she ran a race against the king's horses and, crossing the finishing line first, gave birth to twins.

See also GODDESSES; RIVER GODDESS. [M.R.D.]

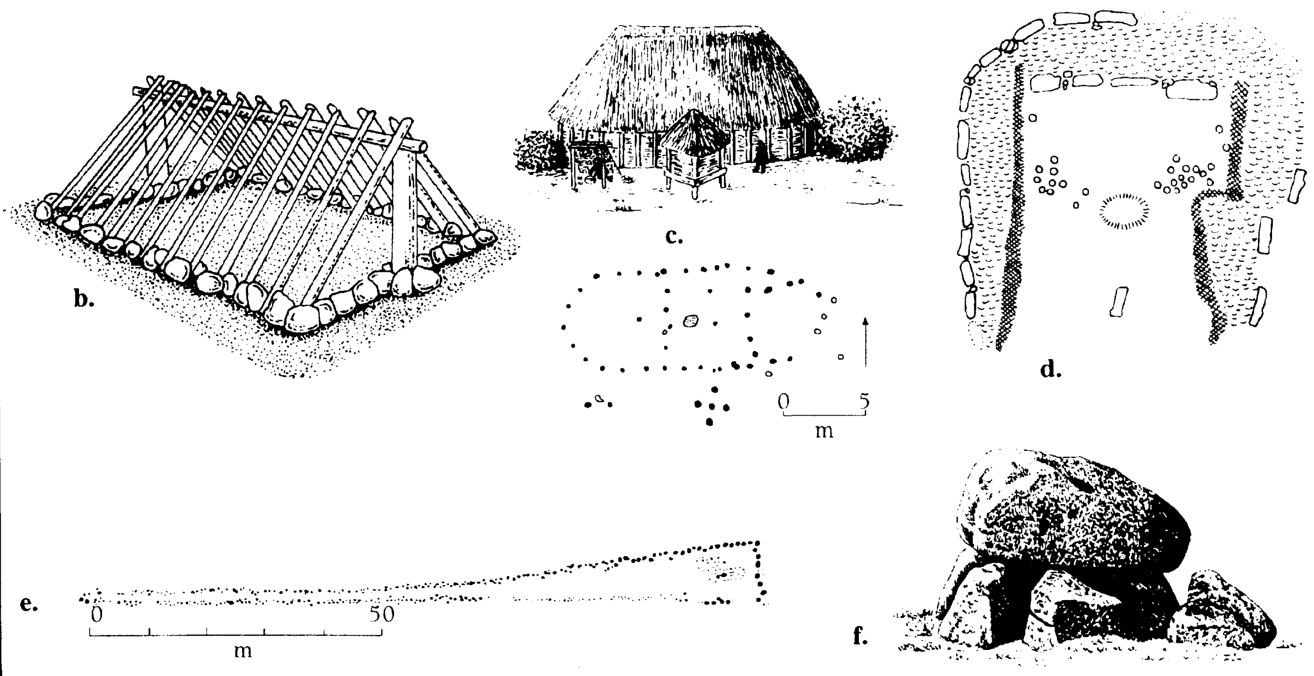


TRB I a. Area of the TRB culture.

TRB CULTURE

The TRB (*Trichterbecher* or 'Funnel-necked-beaker') culture is the primary Neolithic culture of the north European plain *c* 4500–2700 BC. Sites are distributed from the Netherlands across northern Europe, including the Netherlands, south Scandinavia, Germany, Poland and the northwest Ukraine.

TRB settlements range from small camp sites to large villages, in some instances surrounded by multiple ditch and palisade constructions. Rectangular houses on the order of 15 x 6 m in size, have been excavated as well as horseshoe-shaped buildings. The settlements exhibit a mixed agricultural basis, with marked regional patterns that range from lowland agricultural sites to upland sites with a presumably pastoral economy. Cereals from Scandinavian sites include wheat (*Triticum monococcum*, *T. dicoccon*, *T. aestivum*), barley (*Hordeum vulgare*), and brome (*Bromus secalinus*) while among the fruits was the apple (*Malus sylvestris*); residue of oil from flax (*Linum usitatissimum*) has been recovered from a flask. TRB sites in Poland have also yielded spelt (*Triticum spelta*), millet (*Panicum miliaceum*), pea (*Pisum sativum*), lentil (*Lens culinaris*) and flax (*Linum usitatissimum*). Among the domestic animals cattle predominate, followed by pigs and ovicaprids very much in third place. Wild game included

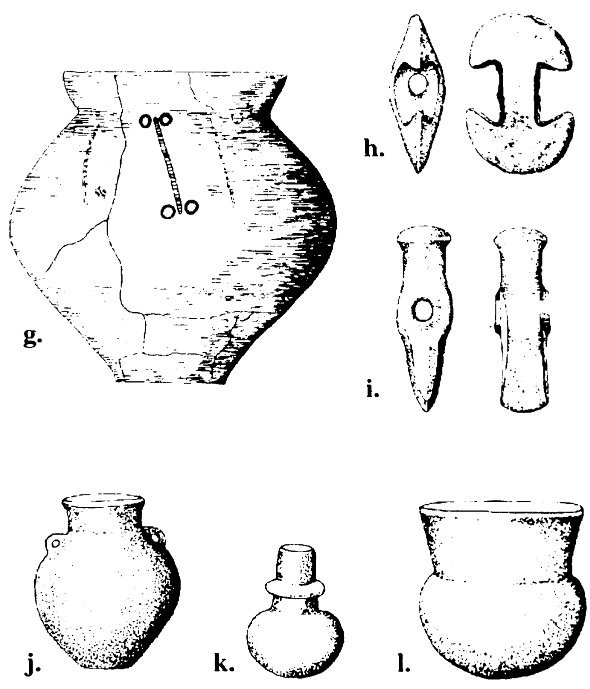


TRB I b. Grave construction; c. Reconstructed house from Wittenwater; d. Ritual structure at Tustrup; e. Long barrow from Poland; f. Megalithic tomb.

red and roe deer, elk, aurochs, wild pig, bear, horse, badger, wolf, fox, beaver, hare, otter, wildcat, lynx, marten and in the Baltic region, seal. Fish remains have included carp, pike and eel as well as shellfish. Wood remains have included alder, birch, beech, elm, maple, oak, pine and yew.

In technology, there is evidence for both the plow and wheeled vehicles, at least in the eastern region of TRB distribution. The ceramics are typified by beakers and amphorae with wide flaring mouths and a series of cult vessels are also known, particularly from Danish ritual complexes. Copper was acquired by exchange while stone "battle-axes" were also known. The rich flint industry also involved the mining of flint. Burial varies on a regional and chronological basis and includes inhumation in pits, timber graves of box- and tent-like construction, stone cists, megalithic tombs and earthen long barrows. Traces of apparent mortuary houses and large ditched-enclosures have also been uncovered.

The TRB culture occupies an important role in any discussion of IE origins since its territory is broadly coincidental with that of the later Germanic and possibly Baltic and Slavic languages, and, perhaps more importantly, its distribution is also broadly coincidental with the Globular Amphora and Corded Ware cultures which are widely regarded as major vectors for the expansion of the IE languages. Moreover, as it yields evidence of the plow, wheeled vehicles, and the horse (wild or domesticate is uncertain), it can accommodate the minimum cultural requirements for identifying a prehistoric culture as potentially Indo-European. Its origins are a topic



TRB II g. TRB pot with wagon; h. Stone "battle-ax"; i. Stone "battle-ax"; j. TRB Pot (Phase A); k. TRB "milk flask" (Phase B); l. TRB funnel beaker (Phase B).

of considerable controversy and it has been derived variously from Neolithic cultures of western, central and eastern Europe (Rössen and Lengyel cultures) although recent opinion has rather emphasized its indigenous character and sought its origin in the acculturation of local hunter-gatherers who apparently resisted the agricultural economy of their southern neighbors until forced by changing environmental conditions to adopt the new subsistence base. For those arguing an IE origin either in the initial spread of the Neolithic economy or a later expansion from central Europe, e.g., the Linear Ware culture, then the TRB culture is generally identified as Indo-European. On the other hand, in the "Kurgan solution" to the IE homeland problem the TRB culture has been cast in the role of an indigenous non-IE culture, marked by associations with the Mother Goddess, and ultimately replaced by IE cultures such as the Globular Amphora, Baden and Corded Ware cultures.

See also CORDED WARE CULTURE; GLOBULAR AMPHORA CULTURE; LINEAR WARE CULTURE. [J.P.M.]

Further Reading

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TREE

***dóru** (gen. ***dróus**) 'wood, tree'. [*IEW* 214–217 (**deru-*); Wat 12 (**deru-*); GI 525–526 (**t'e/orw-/*t're/ou-*); Buck 1.42; Fried 140–149; BK 151 (**t'ʸar-/*t'ʸər-*)]. OIr *daur* (*DIL dair*) (gen. *daro*) 'oak', Wels *dâr* (pl. *darwen*) 'oak' (< Proto-Celtic **daru-* with unexplained **-a-* rather than **-o-*), Grk **δόρυ** 'tree trunk, wood; spear', Hit *tāru* 'tree, wood', Av *dāuru* (gen. *draoš*) 'tree trunk, piece of wood, wooden weapon', OInd *dā́ru* (gen. *dróḥ ~ drúṇaḥ*) 'wood', TochAB *or* 'wood' (TochB [pl.] *ārwa* 'firewood'); with a generalized zero-grade: Myc *du-ru-to-mo* 'woodcutters', OInd has *drú-* 'wood, wooden implement; tree, branch', one should compare OIr *druï* (*DIL druī*) (< **dru-u̯id-*) 'druid, i.e., knower of trees'; from an extended **druh*$_a$*-*, perhaps originally a collective: Lith *drū́tas* 'strong' (< *'± tree-like'), Alb *drizë* 'Christ's thorn' (**dri* [< **druh*$_a$*-*] + *-zë*, a diminutive suffix), Grk **δρῦς** 'tree, oak'; from **druh*$_a$*o/eh*$_a$*-*: OCS (pl.) *drŭva* 'wood', Alb *dru* 'wood, tree', *drushk* 'oak'; from **dréu̯om*: ON *trē* 'tree, wood', OE *trēow* 'tree, wood' (> NE *tree*), Goth *triu* 'wood, tree'; from **deru̯o/eh*$_a$*-*: Wels *derwen* 'oak' (pl. *derw*), ON *tjara* 'tar', OE *teoru* 'tar' (> NE *tar*), Lith *dervà* 'tar', Latv *dar̃va* 'pitch', OCS *drěvo* (< **deru̯om*) 'tree'. The evidence of Greek, Hittite, Indo-Iranian and Tocharian reveals that the neuter paradigm was the basic one in PIE while Germanic-Baltic-Slavic show a regularly derived thematic formation **dreu̯o-*, with new *e*-grade, that may itself be a dialect form in late PIE. Cf. the metaphorical use of 'oak' and 'true' in the related set: ON *tryggr* 'trustworthy, faithful', OE *trēow* 'trustworthy, faithful' (> NE *true*), Goth *triggws* (< **dreuh*$_a$*-(i̯)o-*) 'trustworthy, faithful'.

The generic word for 'tree' is one of the best attested words in the entire IE vocabulary, with cognates in at least eleven stocks. Many of these cognates simply denote 'tree' or 'wood'. But in a strikingly large number of cases we find some metonymic or functional extension of meaning, for example, 'bow, spear' (NPers *darūna* 'rainbow'), 'trough', or 'spoon' (Arm *targal*). Or there appears to have been a shift to a specific tree, as in Wels *derwen* 'oak'. Often we find a metaphoric shift of some sort such as 'firm', 'brave', 'hard' or indeed in Grk *Δρυ-αχαρνῆς* as in 'the knotty, ironwood hard Acharnians'. These associations of 'tree' to property are most salient in Germanic where phonologically unimpeachable cognates show up not only with the sorts of meanings cited above but more particularly with meanings like 'truth', 'loyalty', e.g., ON *trū* 'belief'. The relative status of these arboreal as against tree-derived meanings have understandably provoked controversy which has not been resolved by attempts to keep the two sets of meanings entirely separate on purely linguistic grounds. The huge number of reflexes of this term include all the ablauts and many other phonologically possible variations: full-grade **deru-* as in Wels *derwen*, *o*-grade **dóru* as in Grk *δόρυ* and zero-grade **dru-* as in Grk *Δρυ-*.

The most important arboreal taxonomic ambiguity is between 'tree/wood' and the specific meaning of 'oak'. In Albanian, for example, *dru* means 'wood' but *drushk* means 'oak'. The strong evidence, however, is in Greek and Celtic. The latter includes a complete set of terms related to druidic cult: 'oak', 'acorn', and 'mistletoe'. In Greek some evidence indicates the standard tree **δένδρον** (as in Pindar) while other reflexes of **deru-* such as **δρῦς** strongly suggest 'oak' in religious contexts such as *Διvδρύμε* or 'Zeus's grove'. In terms of Celtic and Greek, one might claim that the original meaning would have been 'oak', specifically the English or brown oak, which was dominant through much of Eurasia. The oak was then critical in a druidic-type cult and was also strongly associated with such properties as hardness, truth and loyalty, as the oak is to this day. During the extensive migrations, often into areas where oak was rare, the meanings shifted to other trees such as the pine or larch or to objects made of wood, or to generic 'tree/wood'. Despite the allure of this "oak hypothesis", the bulk of evidence, particularly the meaning 'tree' found in peripheral stocks such as Germanic, Hittite and Tocharian, convinces most scholars that the original denotation of **dóru* was 'tree, wood' and it was only shifted to 'oak' in specific stocks.

***u̯idhu** 'tree, forest'. [*IEW* 1177 (**u̯idhu-*); Buck 1.41; Wat 78 (**widhu-*)]. OIr *fid* 'tree', Wels *gwŷdd* 'tree', ON *viðr* 'forest', OE *widu* 'wood', OHG *witu* 'wood'. Dialectally west IE. Since three of the five terms denote 'tree' or 'forest' or 'wood', we can postulate a peculiar syncretism of three distinct arboreal referents which are kept apart in most languages and probably were in PIE.

***k**^{w}**résnos** 'tree; brush(wood)'. [*IEW* 633 (**ku̯res-*)]. OIr *crann* (with secondary *-a-* rather than expected *-e-*) 'tree', Wels *pren* 'tree', Gaul *prenne* '(a kind of?) large tree', Grk **πρῖνος** (with *-i-* as sometimes in the neighborhood of *-s-* or *-r-* instead

of -e-) 'holm-oak'. Related are Wels *prys* 'woods', OE *hyrst* 'hillock, height, wood, wooded eminence', OHG *horst* 'wood, wooded eminence' from *k^{w}r̥sto/i-. A new full-grade is seen in OCS *chvrastije* 'brushwood', Rus *khvórost* 'brushwood' (< Proto-Slavic *chvorsto- which was rebuilt on the model of *chvojá 'needles or branches of coniferous tree'?). A dialectally limited form for 'brush'. Ethnographically, cultures such as the PIE always seem to have words for 'brush' and/or 'brushwood'; *k^{w}résnos thus fills a gap in the proto-system.

See also PLANTS; TREES. [P.F.]

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TREES

Arboreal terminology is one of the best attested in early PIE vocabulary. It is uniquely and equally well supported by two sets of hard facts: the pollen deposits that indicate the distribution and chronology of trees and from one to two dozen long recognized sets of cognates that appear to be solidly reconstructed to early IE, e.g., *bherh$_{x}$ĝos 'birch'. These facts are often strongly supported by archaeological data.

During the Boreal period, and the following, warmer Atlantic (*c* 5000–3000 BC), approximately the time of PIE unity, and then the Sub-Boreal, enormous amounts of tree pollen were deposited over the entire area of the early IE-speaking world, wherever it was situated. This palynological evidence yields a rich panorama of the groves and dense forests that were scattered intermittently across Eurasia from Atlantic Europe to the Urals and beyond. Palynological analysis and the woods recovered from archaeological excavations attest that the following trees were salient and widespread: birch, pine, willow, alder, aspen and poplar, juniper and cedar, apple, maple, hazel, elm, the nut trees, linden, ash, oak, hornbeam, beech, and cherry; in fact, all the forms that are strongly supported on linguistic grounds are also found botanically, except for the yew (for which there are two terms in IE). Naturally, the frequencies and distributional profiles changed through time and vary over space: the birch and poplars, for example, were far less frequent by Atlantic times when, on the other hand, we witness large stands of mixed hardwoods, above all the oak, which then partly retreat and diminish before the climax forests of beech (with a hornbeam understory).

Careful study of the pollen reveals important regional complexes, notably northern, eastern, and southern ones, often reflected in semantic shifts as different IE tribes moved into new environments. For example, the 'birch' term shifts to 'ash' in Latin, due to the paucity of birches in Italy, whereas, for similar reasons, the early 'ash' term shifts to 'beech' in Greek and Albanian. But the overall picture is one of a fairly consistent and far-flung presence of the eighteen major genera. Also, careful palynological study explodes the homeland arguments based on a single tree, the 'beech' in particular, but also the 'birch', since distributions of trees during the Atlantic period differed markedly from those of today. Proponents of the "beechline" argument have chosen to ignore the palynologically well-attested eastern beech of the Caucasus. Finally, it is sometimes possible on botanical grounds to isolate a species as the most probable or at least the most frequent referent of arboreal terms reconstructed linguistically, e.g., the Scots pine.

The second basic fact is the excellent correspondence between sets of cognates that are attested in six to eleven stocks. These normally reveal reconstructed meanings at the level of the genus, seldom the species of the tree unless only a single species occupied a given area. The main lexical roster of IE trees (of varying claims to antiquity) include the following powerful sets:

Ash: *h$_{3}$es(k)-; *Fraxinus excelsa* (otherwise *ornus*, *oxyxarpa*, and *Sorbus aucuparia*).
Beech: *bheh$_{a}$ĝos; *Fagus* (probably) *sylvatica* and *orientalis*, (in some regions) *sylvatica atropurpurea*.
Birch: *bherh$_{x}$ĝos; *Betulus* (probably) *pendula*, in some regions *pubescens* and *humilis*.
Hornbeam: *(s)greh$_{a}$b(h)-; *Carpinus betula*, (possibly) *orientalis* and *caucasica*.
Oak: *pérk^{w}us, *h$_{a}$eig-, (?) *dóru; *Quercus robur*, also *petraea* and *sessiliflora*.
Pine: *pit(u)-, *péuk̂s and possibly *k̂os-; *Pinus sylvestris* (also *Abies alba* and *Picea excelsa*).
Willow: *u̯eit-, *sal(i)k-, (perhaps) *u̯rb-; *Salix*.

Moreover, there are additional cognate sets of demonstrated albeit weaker IE status (in a few cases, such as the "apple", a good but not conclusive case has been made). These comprise:

Alder: *h$_{a}$él(i)sos, *u̯erno/eh$_{a}$-; *Alnus barbata*, and possibly regionally *incana*, *viridis* and *glutinosa*.
Apple: *h$_{a}$ebVl-, *méh$_{2}$lom; *Malum* sp.
Aspen/poplar: *h$_{2/3}$osp-; *Populus* (probably) *tremula*, (also possibly) *nigra*, *alba* and *canescens*).
Cherry: *k̥rnom ~ *k̥rnes-; *Cornus mas*, *Prunus padus*, etc.
Elm: *u̯i(n)ĝ-, *h$_{1}$élem; *Ulmus* sp.
Hazel: *kós(V)los; *Corylus* (mainly) *avellana*, (possibly also) *colurna* and *maxima*.
Juniper/cedar: *h$_{1}$eleu-; *Juniperus* sp. and/or *Cedrus* sp.
Linden: *lenteh$_{a}$-, *leipeh$_{a}$-; *Tilia* (probably) *cordata*, *platyphyllos*, (possibly) *tormentosa*, *dasystyla*.
Maple: *kléinus, *h$_{2}$ékr̥; *Acer* (probably) *campestris* and *platanoides*, (perhaps) *pseudoplatanoides*.
Nut: *h$_{2}$er-, *kneu-; (possibly in west) *Corylus*, (probably in east) *Juglans regia* and *Castanea sativa*.
Yew: *taksos, *h$_{1}$ei̯u̯os; *Taxus baccata*.

In a striking number of cases there are two or even three terms for one genus, e.g., 'willow', 'apple', 'maple', 'nut', 'yew',

The Distribution of Indo-European Tree Names

Species	Form	Celt	Ital	Gmc	Balt	Slav	Alb	Grk	Arm	Anat	Iran	Ind	Toch
Alder	*u̯erno/eh$_a$-	x	-	-	-	-	x	-	x	-	-	x	-
	*h$_a$éliso-	?	x	x	x	x	?	?	-	?	-	-	-
	*kleh$_a$dhreh$_a$-	-	-	x	-	-	-	x	-	-	-	-	-
Apple	*h$_a$ebVl-	x	x?	x	x	x	-	-	-	??	?	-	-
	*meh$_2$lom	-	x	-	-	-	x?	x	-	?	-	-	-
Ash	*h$_3$es(k)-	x	x	x	x	x	x	x	x	?	-	-	-
Aspen	*h$_{2/3}$osp-	-	-	x	x	x	-	-	x	-	?	?	-
Beech	*bheh$_a$ĝos	x	x	x	-	x	x	x	-	-	-	-	-
Birch	*bherh$_x$ĝos	-	x	x	x	x	-	-	-	??	x	x	-
Cherry	*kr̥nom	-	x	-	x	-	-	x	-	-	-	-	-
Elm	*h$_1$élem	x	x	x	-	x	-	-	-	-	-	-	-
	*u̯i(n)ĝ-	-	-	x	x	x	x	-	-	-	x	-	-
Fir	*dhonu-	-	-	x	-	-	-	-	-	x	?	?	-
	*h$_a$ebi-	-	x	-	-	-	-	?	-	-	-	-	-
Hawthorn	*h$_2$ed(h)-	x	-	-	-	-	-	-	-	x	-	-	-
Hazel	*kós(V)los	x	x	x	x	-	-	-	-	-	-	-	-
Hornbeam	*(s)greh$_a$b(h)-	-	x	-	x	x	?	?	-	-	-	-	-
Juniper	*h$_1$eleu-	-	-	-	-	x	-	x	x	-	-	-	-
Linden	*lenteh$_a$-	-	?	x	x	x	x	-	-	-	-	-	-
	*leipeh$_a$-	-	-	-	x	x	-	-	-	-	-	-	-
Maple	*kléinus	-	-	x	x	x	-	?	-	-	-	-	-
	*h$_2$ĕ́kr̥	-	x	x	-	-	-	x	-	x	-	-	-
Mulberry	*mórom	x	x	-	-	-	-	x	x	?	-	-	-
Nut	*kneu-	x	x	x	-	-	-	-	-	-	-	-	-
	*h$_2$er-	-	-	-	x	x	x	x	-	-	-	-	-
Oak	*pérk^{w}us	x	x	x	??	??	-	-	-	-	-	-	-
	*h$_a$eig-	-	?	x	-	-	-	x	-	-	-	-	-
Pine	*péuk̂s	x	-	x	x	-	-	x	-	-	x	-	-
	*pit(u)-	-	x	-	-	-	x	x	-	-	?	?	-
	*pŕ̥k$^{(w)}$eh$_a$-	-	x	x	-	-	-	-	-	-	-	-	-
Sloetree	*dhergh-	x	-	x	-	x	-	-	-	-	-	-	-
Willow	*sal(i)k-	x	x	x	-	-	-	-	-	-	-	-	-
	*u̯eliko/eh$_a$-	-	-	x	-	-	-	x	-	-	-	-	-
	*u̯eit-	x	x	x	x	x	-	x	-	-	x	x	-
Yew	*h$_1$eiu̯os	x	-	x	x	x	-	-	-	x	-	-	-
	*taksos	-	x	-	-	x	-	x	-	-	x	-	-

and 'oak'. This multiplicity of reconstructed forms may involve geographical complementation, e.g., eastern versus western dialectal terms, or functional specialization where there was the use of one part or of one species of tree for a specific purpose, e.g., willow osiers are used for baskets and fences.

To a degree that goes beyond other semantic sets, the arboreal terms and the tree names in particular indicate a relatively strong western-central area that includes Celtic, Italic, Germanic, Baltic and Slavic. Among these Slavic shows the highest rate of mutual correspondence, which may suggest that its ecological area corresponds relatively closely with that of the earliest Indo-Europeans. It should also be observed, however, that a number of the terms for trees, though found across a range of west or central European stocks, may have entered the continuum of early IE languages from non-IE substrates, e.g., one if not both of the 'apple' words. The relative paucity of inherited tree names in Indo-Iranian could easily be accounted for by the long sojourn of these groups in the relatively tree-less region of the Kazakhstan steppe and Central Asia. In addition to the often discussed names for particular genera of trees, there are also some excellent terms for the basic parts of the tree: branch, root, bark, twig. Indeed, we can assume that the speakers of PIE were strongly oriented to their forests and groves as sources of anything from fire-wood, timber and bast to religious and artistic inspiration.

Combined linguistic, archaeological and even modern ethnographic evidence demonstrates many specific uses and functions of trees: the ash, hornbeam and oak for spears; the

yew, hazel and aspen for wands and other sacred or ritual instruments; the willow for withies. More interesting are the large complexes, notably those involving the oak and the birch. We can reconstruct at least two names for the 'oak' and the word for 'tree' is so strongly connected with the 'oak' that at least a case can be made that this was its primary meaning. The term for 'acorn' is also well attested and we have a weaker but still cognate 'mistletoe'. Archaeologically and historically there is overwhelming evidence for worship in oak (and beech) groves, and for religious and mythological association of the oak with mountains, lightning and a high god; in short, many parts and aspects of the oak form part of an early druidic sort of religion.

Quite different from the oak complex is the symbolic sphere of the birch. The word that we can reconstruct with confidence appears to have been feminine both grammatically and lexically. In folklore and myth from the Baltic to the Vedic texts of India, the birch seems for long to have symbolized young, virginal femininity. The birch and oak, however, are but extreme examples of the many nuances of every arboreal term, including 'branch' and 'root', and of the rich texture of nuance that interconnects the members of the arboreal set as a whole to each other and to many other symbols in the early IE world.

See also ALDER; APPLE; ASH; ASPEN; BARK[1]; BEECH; BERRY; BIRCH; BRANCH; CHERRY; ELM; FIR; FORK (OF TREE); GROVE; HAWTHORN; HAZEL; HORNBEAM; JUNIPER; KNOT[2]; LINDEN; MAPLE; MISTLETOE; MULBERRY; NUT; OAK; PINE; PLANTS; SAP; SLOETREE; WILLOW; YEW. [P.F.]

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TRICKSTER

A mythological "Trickster" is not a figure easily located nor much investigated in the broad Indo-European context. No remainder of any believable Trickster-Culture Hero has been found in any of the various IE traditions; that is, as a primitive mythic being of vast but semi-comic dimensions and erratic and disorganized powers, who blunders into the creation of human culture (but who also may be the originator of death among humankind). Although in no way assignable to PIE antiquity, there are reflections of a Trickster god in the divine pantheons of IE-speaking peoples. We can tentatively point to the Greek Hermēs who shows contrary and reversing patterns of action, an emblematic image of masking, trouble-making, and even of the perverse. The same is true of the Norse god Loki, 'first creator of trickeries,' who is identified as one of the Æsir, the gods of sovereignty, order, and war, and yet is called both an enemy and a servant of the other Norse gods. Georges Dumézil showed the clear parallelism between Loki and the Ossetic Syrdon, who displays the same contrary and malignant nature, and the same servant's role, among the Nart heroes of the Ossetian tales, but he was reluctant to equate these two figures with the archaic and archetypal Trickster-type as explored in Amerindian cultures by Paul Radin and defined by Carl Jung. Nevertheless, Dumézil did argue for at least generic comparisons between the Norse Loki, the Roman Tarpeia, the Avestan Angra Mainyu as well as the Ossetian Syrdon.

One important mode of the Trickster is locatable in the IE epical context, where he already appears in the person of Odysseus, the great-grandson of Hermēs, in the *Iliad*; called he of many wiles (πολύμητις), a crafty, manipulative, untruthful but respected hero and war-king whose friend and divine ally was Athēnē, the goddess of craft and of intelligence. Odysseus sets up a pattern that will be seen widely elsewhere in IE epic, by being often paired with a "straight", blunt and physically heroic warrior, in this case the hero Diomēdēs. Such a pairing of Trickster-hero and a muscular and unthinking partner is also seen in the Welsh Celtic context, where Cei is paired with knightly Bedwyr. Cei is himself a complicated, two-sided figure, a warlock but also a great warrior, who eventually declines into the buffoon-like Sir Kay of the later Arthurian romances. In the Old Irish hero-tales, such as the Ulster Cycle, some tricksterish characteristics are seen in such mocking, trouble-making and contrary figures as Bricriu Nemthenga (poison-tongue) and Dubthach Doeltenga (chafer-tongue). A special reflection of the warrior-Trickster appears in the Serbo-Croat heroic songs collected by Parry and Lord: "Tale of Orasacs" or "Tale the Fool" acts as planner, spymaster, executioner and jester to a collective of hero-warriors and border-fighters.

Trickster can be associated with other figures who aid and assist in the warrior function, especially with the Smith, also a master of craft and (like the most archaic Trickster) a creator of culture. Their similarity also includes the manipulation of magical powers, and their "blackened", distorted, and disheveled appearance, in which both show contrast to and reversal of the usual perfection of the surface of the hero-warrior's persona. Possibly Smith and Trickster descend from the same root, as they are usually closely allied with but not precisely part of the most archaic IE ideological structure. In general, the IE epical Trickster, the most widely seen example of the general type, acts as a foil to the usual warrior-hero, showing special knowledge, craft, and word-skills; he is also

likely to be a survivor, as the usual hero is not. The erotic element seen in the Trickster in other non-IE traditions is mostly missing, or not very prominent, in the IE versions of the Trickster's acts and adventures.

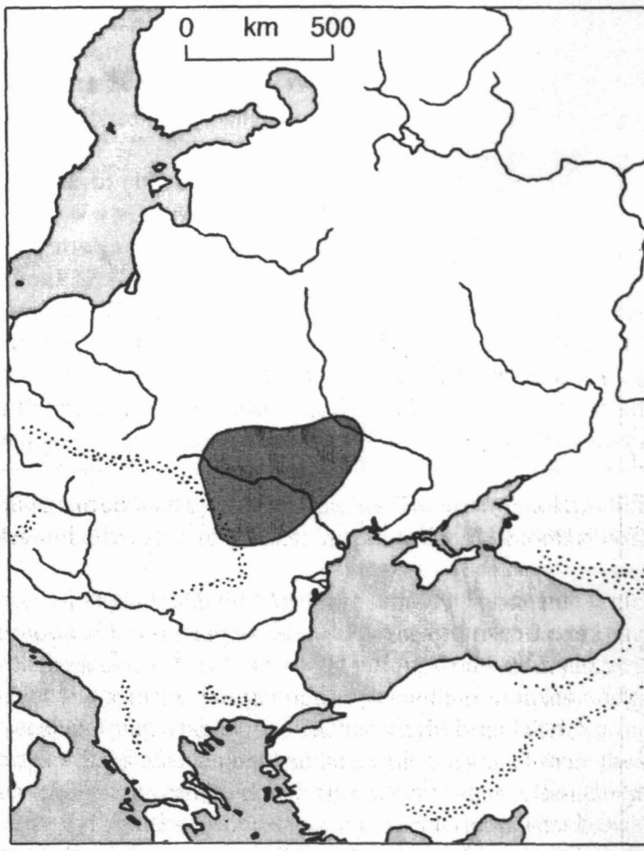
See also Craft God; Eschatology; Smith God. [D.A.M.]

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TRIPOLYE CULTURE

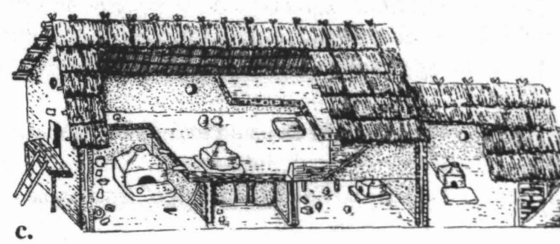
The Tripolye culture stretches from Romania (where it is known as the Cucuteni culture) to the western Ukraine and dates to the period *c* 4500–3000 BC. The culture is attested from well over a thousand sites in the form of everything from small villages to vast settlements comprised of hundreds of dwellings surrounded by multiple ditches. The arrangement of houses and other structures is often seen to be in the form of a circle or concentric circles with one or several houses in the center of the settlement. An alternative arrangement includes rows of houses aligned along the side of a river. The houses themselves may vary from small dwellings, presumably of a nuclear family, to much larger houses, including examples with a second storey. The larger structures have been taken to be the dwellings of extended families while the size of the settlements has been correlated with clan or tribal units. Clay-built ovens and hearths are known from the interior of sites and clay models of houses attest the existence of furniture and wall decorations. In some instances buildings identified



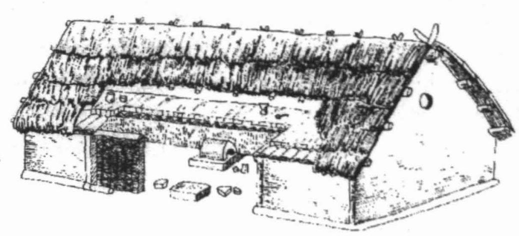
Tripolye a. Distribution of the Tripolye culture.



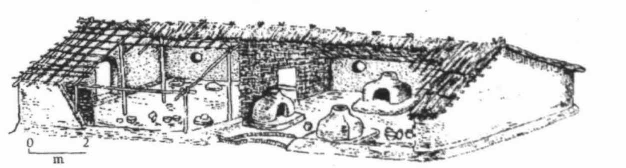
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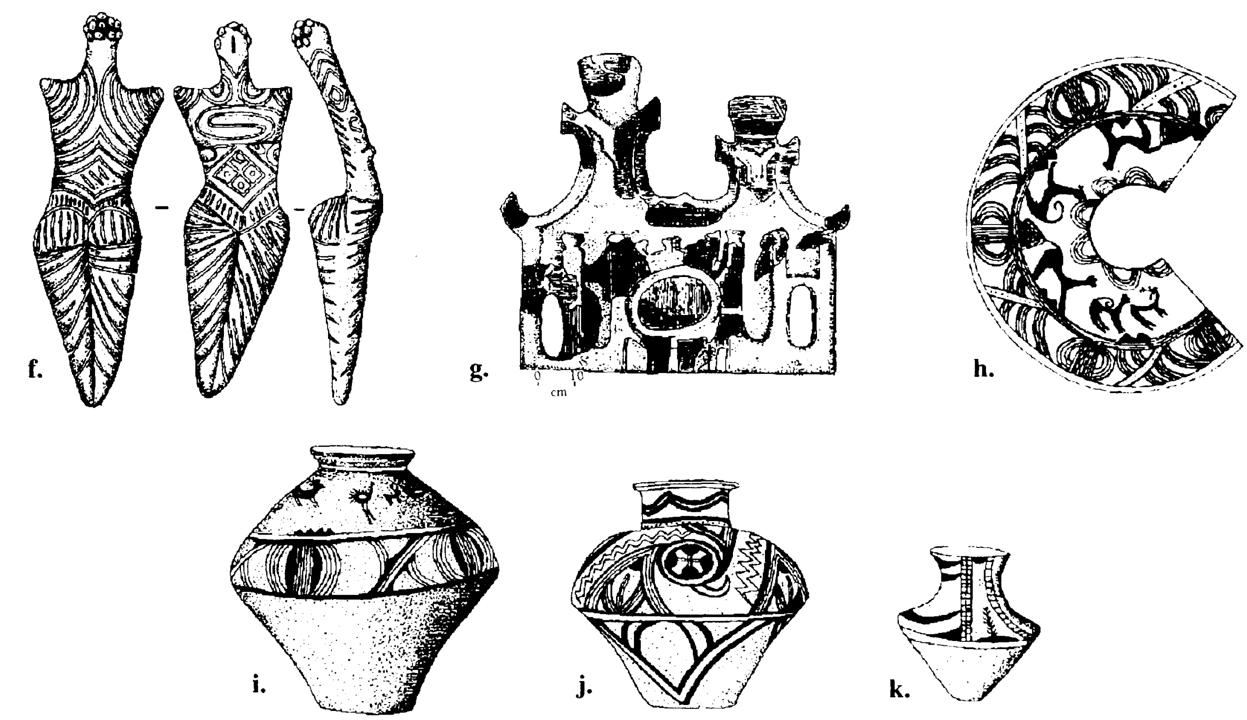


d.



e.

Tripolye b. Village of Kolomiyshchina; c. Two-storey house; d. Tripolye house; e. Tripolye house with multiple ovens.



Tripolye f. Tripolye figurines; g. Cult shrine; h. Zoomorphic motifs on Tripolye vessel; i. Birds on Tripolye vessel; j. Geometric motifs on Tripolye vessel; k. Tree-motif on pot.

as shrines have been uncovered and clay platforms (?"altars") have frequently been identified in structures.

Wood remains indicate something of the range of the arboreal environment of the Tripolye culture and include fir (*Picea excelsa*), pine (*Pinus sylvestris*), alder (*Alnus*), birch (*Betula*), hornbeam (*Carpinus betulus*), beech (*Fagus sylvatica*), oak (*Quercus robur*), elm (*Ulmus laevis*), linden (*Tilia cordata*), ash (*Fraxinus excelsior*), and hazel (*Corylus avellana*). The mixed agricultural economy is attested with the remains of wheat (*Triticum monococcum, T. dicoccum, T. aestivum, T. spelta*), barley (*Hordeum vulgare*), millet (*Panicum miliaceum*) and oats (*Avena*). Among the lentils and pulses there are pea (*Pisum sativum*) and bitter vetch (*Vicia ervilia*). Other plant remains for the early and middle period of the Tripolye culture include the cherries (*Prunus cerasifera, P. domestica*), the vine (*Vitis*) and apricot (*Armeniaca vulgaris*) which by the Late Tripolye period were augmented by further forms of cherries (*Prunus spinosa, Cornus mas, Cerasus avium*), pear (*Pyrus*), apple (*Malus*), grape vine (*Vitis vinifera*), hawthorn (*Crataegus*) and wayfaring-tree (*Viburnum lantana*). Among the domestic fauna cattle generally predominate but ovicaprids and pig are also well represented except in the latest periods where a shift in settlement into the more arid steppe region sees a very marked decline in domestic pig on late Tripolye settlements. Wild species included red and roe deer, elk, aurochs, wild pig, horse, bear, beaver, badger, otter, wolf, fox, wildcat, marten, hare, squirrel, cricetus (hamster), and isolated instances of antelope, wolverine, polecat, lynx, hedgehog, mole, vole, spalax and citellus (squirrel).

The Tripolye culture attests a wide range of material culture: flint tools, polished stone axes, imported copper ornaments and tools. Simple plowshares have also been uncovered. Of special note are the stylized figurines and fine wares of painted pottery, less frequently ornamented in relief or by excision. These reflect an extensive system of ornamentation which include both zoomorphic and anthropomorphic figures which have been interpreted as reflections of religious beliefs. The anthropomorphic figurines are usually female and ornament on ceramics has also been associated with a female deity or deities. There is a wide variety of other motifs which have generated considerable speculation, e.g., trees are depicted and have been interpreted as sacred trees, cattle have been interpreted as aspects of a bovine goddess.

In origin, the culture is seen as a projection of southeast European agriculturalists to the east and its closest genetic connections, seen particularly in ceramics, are with Neolithic cultures of the Balkans (Boian, Hamangia) and the Linear Ware culture. On the other hand, the Tripolye culture was in regular contact with the steppe and forest-steppe cultures, especially

the Sredny Stog and Yamna cultures. The culture has been variously seen as Proto-Indo-European where its architecture has suggested the extended family type ascribed to the Indo-Europeans or a non-IE culture that was first threatened and then overwhelmed or absorbed into the putatively IE steppe cultures to its east (as in the "Kurgan theory"). In its later phases, it shows evidence of an amalgamation of both native cultural elements (painted wares, figurines) and steppe elements (shell-tempered coarse wares, kurgan burials).

See also KURGAN TRADITION; SREDNY STOG CULTURE; USATOVO CULTURE; YAMNA CULTURE. [J.P.M.]

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TROOP *see* COMPANION

TROUT

pik̂sk̂os 'trout (*Salmo trutta*); fish'. [*IEW* 796 (**peisk-*); Wat 48 (**peisk-*); GI 454 (**p^{h}eisk^h- ~ *p^{h}isk^h-*); Buck 3.65]. OIr *īasc* (gen. *ēisc*) 'fish' (< **peik̂sk̂os* with new full-grade but in any case assuring the cluster **-k̂sk̂-* rather than **-sk̂-*), Lat *piscis* 'fish' (with a not well-explained change from an *o*-stem to an *i*-stem), *piscīna* 'fish-pond', ON *fiskr* 'fish', OE *fisc* 'fish' (> NE *fish*), OHG *fisk* 'fish', Goth *fisks* 'fish', perhaps Alb *pishk* 'fish' (if not borrowed from Lat *piscis*), OInd *picchā-* 'calf (of the leg)', *picchila- ~ picchala-* 'slimy, slippery'. Although the Old Indic word conforms well with linguistic expectations its underlying semantics are rather complicated. There appears to be a widespread association in many different language stocks between the calf of the leg and the belly of a fish full of roe, e.g., Rus *ikrá* 'fish roe; calf of leg', NDutch *kuit* 'fish roe; calf of leg', Estonian *kala* ('fish')-*mari* 'fish roe' and *sääre* ('leg')-*mari* 'calf of leg'. Some iconographic support comes from the presumably Indo-Iranian burial in the Iron Age tombs of Pazyryk in the Altai mountains where an individual was tattooed with a fish down the length of his right shin, thus rendering his calf the equivalent of the fish's belly. Rus (and other Slavic) *piskátĭ* 'groundling (*Cyprinus gobio*)', sometimes included here, is probably rather a derivative of **pisk-* 'whistle' (because of the noise such fish make). Latin and Germanic show an identically constructed denominative verb, **pi(k̂)sk̂-eh$_a$-*: Lat *piscārī* 'to fish', ON *fiska* 'to fish', OE *fiscian* 'to fish' (> NE [verb] *fish*), OHG *fiskōn* 'to fish', Goth *fiskōn* 'to fish'. The nearly certain derivation of **pik̂sk̂os* from **pik̂-sk̂o-* 'spotted' or the like indicates that the earliest ichthyological meaning was 'trout'. Similarly in Slavic we have descendants of a late PIE **pik̂-ro-* meaning 'trout', e.g., Czech *pstruh*, Rus *pestrúška*, or in Celtic and Germanic derivatives of **perk̂-* 'speckled', e.g., MIr *erc* 'speckled, trout, salmon' (but Wels *erch* only 'speckled'), OE *forn(e)* 'trout', OHG *forhanna* 'trout' (but Grk *πέρκη* 'perch' rather than 'trout'). Possibly Hit *parhu-* '± fish' may also belong here. Widespread and old. The distribution of the trout covers all of Europe and extends well into Asia. It seems likely that already in the later stages of PIE this word was becoming generalized to 'fish' and competing with **dhĝhuh$_x$-* 'fish'.

See also FISH; SALMON. [D.Q.A.]



Trout Tattoo of fish on shin of male burial from Pazyryk (*c* fifth century BC).

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TROY

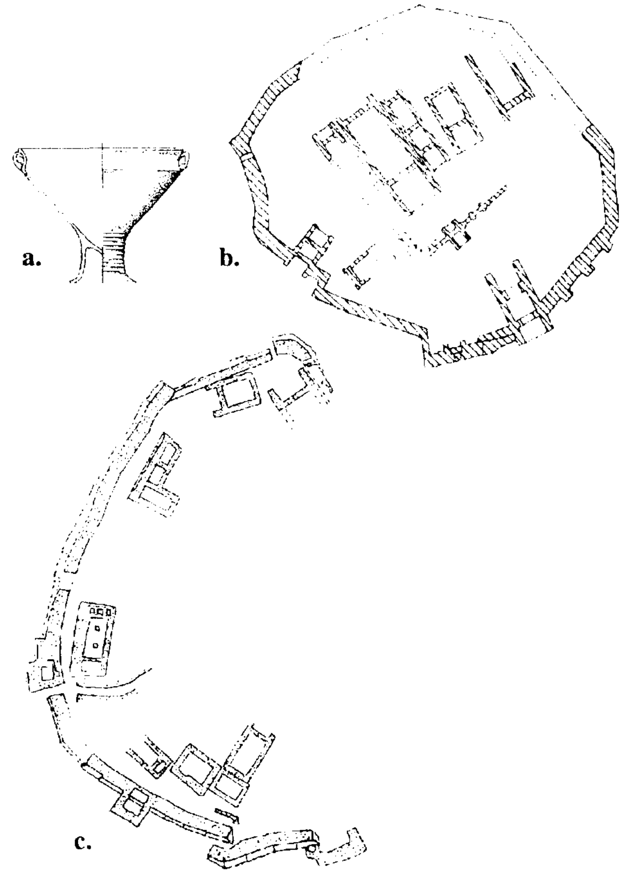
The famous settlement of Troy (identified with the modern site of Hisarlik in northwest Turkey) provides the name for the early Bronze Age culture of northwest Anatolia. The culture, which marks the beginning of the early Bronze Age in this region, dates to *c* 3300 BC (although the site of Troy itself is some centuries later). Sites such as Troy 1, Demirci Hüyük, Klazomenai-Limantepe are all fortified with stone walls and reflect the incipient urbanism of this period with early metal working, craft specialization, etc. Troy itself represents a deposit over 20 m high that is divided into 41 architectural levels spanning eight main periods and many sub-phases. Through the course of its existence it has been variously assigned as a marker for Indo-European intrusions into (or out of) Anatolia.

Troy initially began as a fortified settlement (Troy I, *c* 2900 BC) surrounded by rubble-filled stone walls that may have stood over 7 m high. The interior comprised single-roomed houses, including an apsidal house. Apsidal houses are taken by some as markers for IE movements from the Balkans southwards (they are also found in Greece where they play a role in some discussions of Greek origins; in actual fact, they are widely found across Europe from the Neolithic period

onwards and are no certain ethnic marker in themselves although they might indicate the movement of a particular architectural tradition). Remains of both cereal agriculture (wheat) and stockraising (cattle, sheep/goat) have been recovered. Ceramics bear many parallels with those of the Bulgarian early Bronze Age cultures, such as Ezero, and the proposition that some form of close interaction sphere is probable. Some adduce other parallels such as the stone-built fortresses which are also found at Ezero in Bulgaria and Mikhaylovka north of the Black Sea. On the basis of twenty-seven proposed Thracian-"Trojan" isoglosses, L. A. Gindin has suggested that the Proto-Thracians predominated in the early settlement of Troy. According to the "Kurgan theory" of IE origins, steppe pastoralists reorganized the populations of the Balkans about such citadels and hence Troy I and related sites might mark the earliest intrusion of Indo-Europeans (Proto-Anatolians?) into Anatolia. Others would prefer to reverse the direction of proposed movements and influences and derive the European parallels from Anatolia. Although the domestic horse is not found here at Troy until much later (cognates for the horse word can be found in Luvian), the presence of the horse in western Anatolia on other sites does emerge by this time.

By Troy II (*c* 2500 BC) the interior architecture of the site with its great megaron 'large house' and large circular hearth has often been interpreted as a royal residence. During this phase of occupation a series of hoards of gold and silver were also deposited which can be paralleled across Anatolia at other sites (the so-called "Treasure Horizon"). Cultural contacts across the Aegean are particularly marked. Face urns (vessels shaped and ornamented as a head), similar to those also known in the Baden culture, begin to appear (and will continue through several more periods).

Of the periods, much emphasis has been placed on Troy VI (*c* 1700–1300 BC) which sees the earliest evidence for the domestic horse at the site and a horizon of occupation that has frequently been ascribed to a new people. The linguistic identity of the Trojans at this time has been much discussed since there are some hints that names current in the *Iliad* are to be found in Hittite and Luvian texts of the fourteenth century while traces of Anatolian names are found in Homer's catalogue of Trojan allies in the *Iliad*. Prominent among the names is the Hittite reference to the country of Wilusa (cf. **(W)ilios*, Grk *(F)ίλιος*), which on occasion even carries the same epithet, i.e., Grk *(F)ίλιος αἰπεινή* and Hit *alati wilusati* 'steep Wilusa'. The non-Anatolian sounding personal name *Alaksandus* is compared with Grk *'Αλέξανδρος* 'Alexandros' (the son of King Priam, whose own name has been compared with Luv *Pariya-muwas*). These names have prompted some to argue that the occupants of Troy VI may have been Anatolian, specifically Luvian in their speech. Alternatively, as Troy VI has been regarded widely as a possible marker of intruders, some have suggested that it may have been occupied by Phrygian populations from the Balkans (although they remain linguistically unattested until the eighth century, long after Troy itself was abandoned). This period also sees the appearance of Minyan Ware, a pottery found in both Anatolia and widely over Greece, which some have seen as a marker of Greek movements into Greece. During Troy VII (*c* 1300–1100 BC) there is a sudden break (between Troy VIIa and VIIb) which sees the appearance of knobbed ware, a ceramic style distinctive of the Balkans, which offers another candidate for Balkan intrusions which have also been assigned to the Phrygians. For those who enjoy literary-historical speculation, late Troy VI or the following Troy VII are the traditional candidates for Homer's "Troy" described in the *Iliad*.



Troy a. Minyan ware from Troy; b. Troy II (diameter *c* 110 m) with megaron; c. Troy VI, the earliest level at Troy with the remains of horse.

See also **Anatolian Languages**; **Baden Culture**; **Ezero Culture**. [J.P.M.]

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TRUE

***$h_1$sónt-** 'real, true'. [*IEW* 340–341 (**es-*); Wat 17 (**es-*); GI 256, 264 (**es-*)]. Lat *sōns* 'guilty', ON *sannr* 'true, guilty', OE *sōþ* 'true, genuine, real; justice, truth' (cf. NE *soothsayer*), *sōðian* 'prove true, bear witness' (> NE *soothe*), Hit *asānt-* 'being, existing, real, true', Av *haθya-* 'true', OInd *satyá-* 'true' (Indo-Iranian < **$h_1$sn̥tii̯ós*), *sánt-* 'being, existing, real, true'. In origin the present participle of **$h_1$es-* 'be' but already in PIE specifically 'true, real' as well as 'being, existing'. Also already of PIE age is its juridical use as a confession of guilt, e.g., Hit *asān-at iyanun-at* 'it (is) true, I did it'.

***u̯eh$_1$ros** 'true'. [*IEW* 1166 (**u̯ēro-s*); Wat 77 (**wēro-*); GI 370; Buck 16.66]. OIr *fīr* 'true', Wels *gwir* 'true', Lat *vērus* 'true', OHG *wār* 'true'. A northwest IE adjective formed on the root **u̯éh$_1$r-* 'confidence, faithfulness, agreement', e.g., ON *værr* 'friendly', OCS *věra* 'belief, confidence, faithfulness'. An expanded form **u̯(h$_1$)érh$_x$-* perhaps occurs in Lat *verēri* 'revere, honor', Latv *vērtiês* 'notice, see', Grk *ἐπόρονται* 'they supervise', Hit *werite* 'fear', TochA *wär-* 'smell', TochB *wärsk-* 'smell'.

See also Belief; Tree. [E.C.P., D.Q.A.]

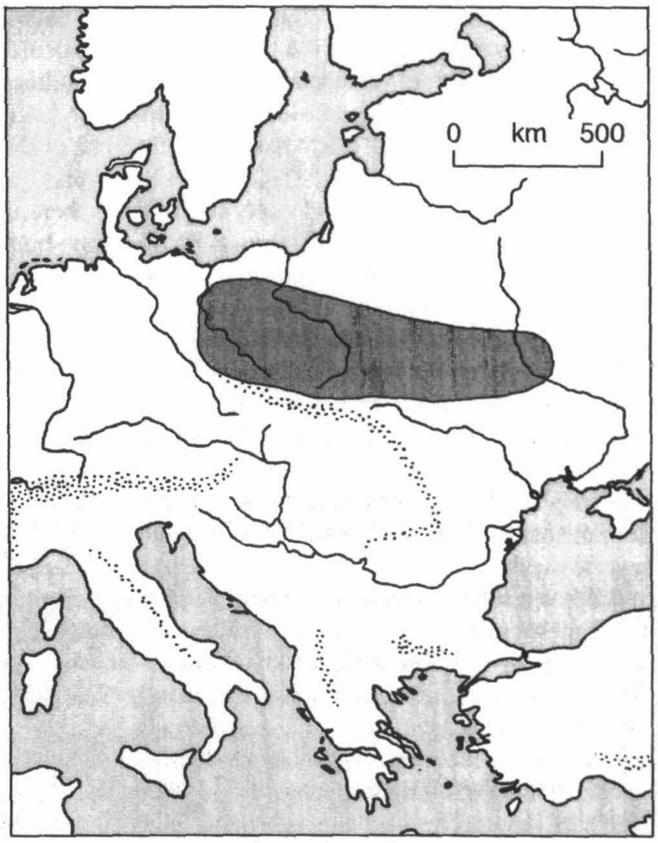
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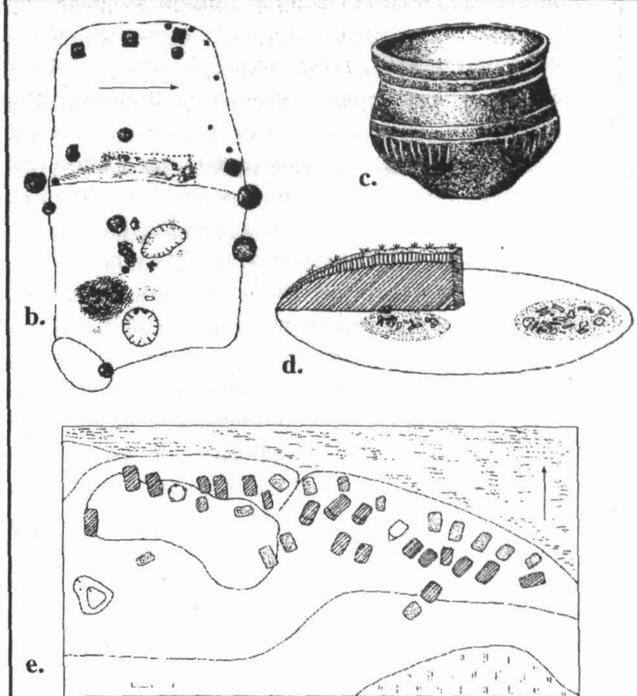
TRZCINIEC CULTURE

The Trzciniec culture is a middle Bronze Age (*c* 1600–1200 BC) culture of Poland and the western Ukraine, the remains of which are found from the Vistula to the middle Dnieper. Architectural remains are normally not well preserved but there is evidence for both surface and semi-subterranean houses. In the eastern Trzciniec site of Pustynka, fifteen to twenty houses were arranged in several rows along a lake side; the houses measured about 10 x 5 m in size. Mixed agriculture with cattle followed by pig appears typical and the technology employed both bronze and flint tools, especially sickle blades; the ceramics indicate a Corded Ware ancestry for the culture. Burials are found both under flat graves and barrows and the burial of a man and woman or even multiple burial, perhaps in a wooden mortuary house, is known. The placement of males in the central chamber of mounds has suggested that these may have served as collective tumuli for patriarchal families. Trzciniec is regarded as the western component of a common Trzciniec-Komarov culture group with regional differences of site location, ceramic styles and mortuary practice. Generally, the Trzciniec along with the Komarov culture is associated with the Proto-Slavs.

See also Corded Ware Culture; Komarov Culture; Slavic Languages. [J.P.M.]



Trzciniec a. Distribution of the Trzciniec culture.



Trzciniec b. Plan of house; c. Bowl from an urn burial; d. Section through kurgan; e. Plan of village of Austynka.

TURN, TWIST

***k^{w}el-** 'turn' (pres. ***k^{w}éle/o-**). [*IEW* 639 (**k^{u}el-*); Wat 33 (**k^{w}el-*); GI 622 (**kh^{oe}l-*); BK 317 (**k^w[^{h}]ul-/*k^w[^{h}]ol-*)].

OIr *cul* 'wagon', Lat *colō* 'dwell', Alb *sjell* 'turn around', *qell* (< **k^{w}olei̯e/o-*) 'carry', Grk *πέλω* 'be in motion; be', *πόλος* 'axle', *πωλέομαι* 'go up and down in a place; frequent, wander about; pursue a walk in life', Av *čaraiti* 'circulates', OInd *cárati* 'moves, wanders, drives', TochAB *^{1}käl-* 'endure, bear', *^{2}käl-* 'lead, bring'. Widespread and old in IE.

k^{w}leu- 'turn'. OIr *cloïd* 'turns back, defeats', Alb *qeshë* (< **k^{w}leud-s-m̥*) 'was', TochA *lutk-* (< **tlutk-* < **klutk-*) 'turn; become', TochB *klutk-* 'turn, become' (Toch < **k^{w}leud-sk̂e/o-*). An enlargement of the previous verb.

trep- 'turn'. [*IEW* 1094 (**trep-*); Wat 72 (**trep-*); GI 187 (**t^{h}rep^{h}-*); Buck 10.12]. Lat *trepit* 'turns', Grk *τρέπω* 'turn', *τροπή* 'change', *τρωπάω* 'turn, change', perhaps Hit *teripp-* 'plow' (if < *'turn the earth'), OInd *trápate* 'becomes perplexed, is embarrassed', *trapā́* 'perplexity, shame, embarrassment'. With or without Hittite, obviously old in IE.

u̯ert- 'turn' (pres. ***u̯érte/o-***). [*IEW* 1156–1158 (**u̯er-t-*); Wat 76–77 (**wer-*); GI 623 (**Hwer-t^{h}-*); Buck 10.12]. OIr *do-fortad* (*DIL do-fortai*) 'poured out', Lat *vertō* 'turn', ON *vera* 'become', OE *weorþan* 'become', OHG *werdan* 'become', Goth *waírþan* 'become', Lith *verčiù* 'turn', Latv *veršu* 'turn', OCS *vrъtěti sę* 'draw round', Grk (Hesychius) *βρατάναν* (< **u̯ratanon*) 'ladle', Av *varət-* 'turn', Sogd *wrtn* 'chariot', Oss *wærdon* 'cart', Mitanni *-wartanna* 'lap around horse-track', OInd *vártate* 'turns', *vartáyati* 'moves, sets in motion', TochA *wärt-* 'throw'. Cf. OIr *frith* 'against', Lat *vorsus* ~ *versus* 'against', OCS *vrъsta* 'age', TochB *wrattsai* 'against'. Widespread and old in IE.

u̯eig/k- '± turn, yield' [*IEW* 1130–1131 (**weik-*); Wat 75 (**weik-*)]. ON *víkva* ~ *víkja* 'move, turn', OE *wīcan* 'yield, give ground', OHG *wīhhan* 'yield, give ground', Lith *vigrùs* ~ *vìglas* 'quick, nimble', Grk *εἴκω* 'yield, give ground', Av *vaēg-* 'sling, throw, swing', OInd *vijáte* 'heaves, speeds, flees away', TochAB *wik-* '(decrease and) disappear'. Widespread and old in IE.

u̯endh- 'wind, twist (particularly flexible branches and withies)'. [*IEW* 1148 (**u̯endh-*); Wat 76 (**wendh-*); GI 632 (**wend^{h}-*); BK 498 (**waŋ-/*wəŋ-*)]. Umb *pre-uendu* 'turn' (?), ON *vinda* 'twist, wind', *vǫndull* 'bundle of hay twisted together', *vǫndr* 'rod', OE *windan* 'turn, twist, wind' (> NE *wind*), OHG *wintan* 'wind', Goth *bi-windan* 'wrap', *wandus* 'rod', Grk *κάνναθρον* 'basket-carriage', (Hesychius) *ἄθρας* 'wagon' (Grk < **u̯n̥dhró-*), Arm *gind* 'ring', OInd *vandhúra-* '(wicker) basket tied on a wagon, wicker carriage', TochAB *wänt-* '± cover, envelop'. A word that is both widespread and old in IE.

derbh- 'turn, twist' (or 'bundle, bind together [by twisting]'?). [*IEW* 211–212 (**derbh-*); Wat 12 (**derbh-*)]. OE *tearflian* 'turn, roll, wallow', OHG *zerben* 'turn about', Rus *dórob* 'box, sieve', Arm *torn* 'cord', Av *dərəβδa-* 'bundle of muscles', Parači *andarf* (< **ham-darb-*) 'sew', OInd *dr̥bháti* 'knots, ties'. Perhaps Grk *δάρπη* 'basket' belongs here if a hypothetical **darphē* has been influenced by *τάρπη* 'large basket' (itself of unclear etymology—perhaps one or both of these words has been borrowed from some other IE group). In the IE east (Armenian, Iranian, Indic) this verb seems to have meant 'bundle, bind together (by twisting)'. In the extreme west (Germanic) the basic meaning was apparently 'turn, twist'. In a central area (Slavic, Greek) it would appear to have been 'plait'. It is not easy to determine which of these meanings was more original for what is obviously an old word in IE.

ku̯erp- 'turn'. [*IEW* 631 (**ku̯erp-*); Wat 34 (**kwerp-*)]. MIr *carr* 'spear', Wels *pār* 'spear', ON *hverfa* 'turn', *horfa* 'turn, think, look', OE *hweorfan* 'turn, change' (> NE *wharve*), OHG *(h)werban* 'turn', *wirbel* 'swirl, whirlpool', Goth *hairban* 'walk about', Grk *καρπός* 'wrist' (i.e., 'where the hand turns'), *καρπάλιμος* 'rapid', TochB *kurp-* 'be concerned with' (< 'turn oneself toward'). Reasonably widespread and old in IE.

tu̯er- 'stir, agitate' [*IEW* 1100 (**tu̯er-*); Wat 72 (**twer-*); GI 115]. Lat *trua* 'scoop, ladle', Swed *tvära* 'stir, agitate', OE *þweran* 'stir, churn, agitate', OHG *dweran* 'turn about quickly', Grk *ὀτρύνω* 'drive, agitate', Av *θwāša-* (< **tvar-ta-*) 'hurrying', OInd *tvárate* 'hurry'. Geographically widely spread, if rather sparsely attested. An old word in IE.

u̯eip- ~ ***u̯eib-*** 'turn, move with a turning motion'. [*IEW* 1131–1132 (**u̯eip-* ~ **u̯eib-*); Wat 75 (**weip-*)]. With **-p-*: Wels *gwisgi* 'lively', ON *vífa* 'arrive as by chance', *veifa* 'be in swinging, trembling movement', OE *wǣfan* 'clothe', *wāfian* 'wave' (> NE *wave*), OHG *ze-weiban* 'scatter', *weibōn* 'waver, hover', Goth *bi-waibjan* 'surround, clothe', OPrus *wipis* 'branch', Lith *viẽptis* 'distort one's face', Latv *viept* 'mask', Av *vip-* 'throw, release (of seed)', OInd *vépate* 'trembles, is agitated'. With **-b-* also Lat *vibrāre* 'move tremblingly', ON *veipa* 'wrap', *veipr* 'headcovering', OE *wīpian* 'wipe' (> NE *wipe*), *wāpe* 'handkerchief', OHG *wīfan* 'throw', *weif* '(head)band', Goth *weipan* 'crown', Latv *viêbt* 'make grimaces'. To either might belong TochB *wip-* 'shake'. In one form or the other widespread and presumably old in IE.

u̯el- 'turn, wind, roll'. [*IEW* 1140–1143 (**u̯el-*); Wat 75-76 (**wel-*); BK 486 (**wal^{y}-/*wəl^{y}-*)]. OIr *fillid* 'bends', Bret *goalenn* 'green twig', Lat *volvō* 'roll, turn', ON *vīl* 'intestine', OE *wielwan* 'roll, turn over', Goth *walwjan* 'roll, rotate', Lith *veliù* 'full or mill (cloth); felt (hats)', Latv *velt* 'roll, rotate', OCS *valiti* 'roll', Alb *vjell* 'vomit', Grk *εἰλέω* 'turn, wind', Arm *gelum* 'turn, wind', OInd *válati* 'turns', TochA *walyi* 'worms, maggots', TochB *yelyi* 'worms, maggots'. Widespread and old in IE.

slenk- 'turn, twist (like a snake)'. [*IEW* 961–962 (**slenk-* ~ **sleng-*); Wat 61 (**sleng^{w}h-*)]. Wels *llyngyr* 'worms, maggots', ON *slyngva* 'throw, sling; twist (yarn), twine (thread)', OE *slingan* 'worm, twist oneself, creep into' (> NE *sling*), OHG *slingan* 'worm, twist oneself, creep into', *slango* 'snake', Lith *slenkù* 'crawl (like a snake)', Latv *slikt* 'sink'. A "westernism" in late IE.

su̯erbh- 'turn, move in a twirling motion'. [*IEW* 1050–1051 (**su̯erbh-*); Wat 68 (**swerbh-*)]. Wels *chwerfar* 'whirling, turning', *chwerfan* 'spindlewhorl', ON *sverfa* 'file; whirl around', OE *sweorfan* 'wipe, rub', OHG *swerban* 'rub off, dry off', Goth *af-swairban* 'wipe off', Latv *svārpstīt* 'bore',

OCS *svrabŭ* 'scabies'. The attestation of this word is geographically central and western in IE. Probably a late and dialectal word in PIE.

?*(u̯)rep- 'turn, incline'. Grk *ῥέπω* 'incline oneself, be inclined to', *ῥοπή* 'inclination', TochA *rapurñe* 'desire, cupidity'. Perhaps dialectal in late PIE.

See also BEND; NECK; RUB; SHAKE; TEAR²; WAGON; WHEEL; WIND. [D.Q.A.].

TWIN

****i̯emós*** 'twin'. [*IEW* 505 (**i̯emo-*); Wat 79 (**yem-*); GI 680–681 (**q'emo-*)]. OIr *emon* 'twins, Lat *geminus* (< **i̯em-ono-*) 'twin', Av *yəma-* 'twin', OInd *yamá-* (< **i̯emós*) 'twin'. Perhaps also Lat *Remus* by assimilation to *Rōmulus*, cf. the Indo-Iranian (mythological) figures: Av *Yimō*, OInd *Yamá*. On the other hand, ON *Ȳmir*, the name of a giant, is not relatable; the stem vowel must be long to account for the desinence. Lith *jumis* 'double fruit' is similarly questionable. Despite several dubious cognates, the solid attestation of this word from Ireland to India confirms that it was the PIE word for 'twin'.

See also COSMOLOGY; DIVINE TWINS. [M.E.H.]

• U •

UDDER *see* BREAST

UNCLE

?*p$h_a$trōus (gen. ****p$h_a$truós***) '(male) paternal relative; father's brother'. [*IEW* 829 (**pətruu̯i̯o-s*); GI 669 (**p^hH̥t^hruwio-*); Buck 2.51; Szem 11; Wordick 124–125]. Grk *πάτρως* '(male) paternal relative', (particularly 'father's father, father's brother'). Although attested in a single stock, it shows both an unusual and non-productive derivational process that suggests considerable age within Indo-European. Moreover, there are further derivatives which greatly increase its geographical spread. Thus we have **p(h_a)tru(u̯)i̯ós* 'relating to the father's side' in Lat *patruus* 'father's brother' (regular from **p$h_a$tru(u̯)i̯ós* or **p$h_a$tru(u̯)ós*), (Old) Lith *strūjus* 'grandfather, old man', Lith *strùjus* 'father's brother; mother's sister's husband', OCS *stryjĭ* 'father's brother', ORus *stryj* 'father's brother', Rus *stroj* ~ *stryj* 'father's brother', Av *tūirya-* 'father's brother' (Balto-Slavic and Iranian with different reductions of the difficult initial cluster **ptr-*), OInd *pitr̥vyá-* 'father's brother'. In Greek and Armenian the same form gives *πατρυιός* 'step-father', Arm *yawray* 'step-father' with a different semantic specialization.

There is no certainty that either **p$h_a$trōus* or **p$h_a$tru(u̯)i̯ós* was the designation for 'father's brother' in PIE. Certainly it was in a series of dialects that gave rise to Balto-Slavic and Indo-Iranian. **p$h_a$tru(u̯)i̯ós* is certainly a possible candidate as the PIE shape of Lat *patruus*. In modern western languages, where Eskimo kinship systems tend to dominate, matrilineal and patrilineal uncles are not differentiated, a situation also seen in some minor terms, notably Lith *dėdė* 'uncle'. The relationship of this word to OCS *djadŭ* 'grandfather' (but note Rus *djádja* 'uncle') indicates that this is a reduplicated child-word, of the same sort as is seen in Grk *θεῖος* 'uncle'.

??*$h_2$éuh_2- 'grandfather; (?) mother's brother'. [*IEW* 89 (**au̯o-s*); Wat 4 (**awo-*); GI 669 (**HauHo-*); Buck 2.51; Szem 11; BK 416 (**ħaw-*)]. As 'mother's brother' attested only in derivatives: MWels *ewyth(y)r* 'uncle', Bret *eontr* 'mother's brother', Corn *ewnter* 'mother's brother' (Celtic < **$h_2$euh_2e/on-tro-s*), Lat *avunculus* (< **$h_2$euh_2Vn-tlo-s*) 'mother's brother; mother's sister's husband', (Plautine) *aunculus* (whence French *oncle*, NE *uncle* and Alb *ungj* 'uncle'), OE *ēam* (< **ēa-hām*, still dissyllablic in *Beowulf*) 'mother's brother' (> NE [Scots] *eme* 'uncle'), OHG *ōheim* 'mother's brother' (as if < **$h_2$euh_2o(n)-* + **k̑oimos*, thus 'living in grandfather's home'?), OPrus *awis* 'uncle' (specifically 'mother's brother'?), Lith *avýnas* (< *$h_2$euh_2-i$h_x$nos*) 'mother's brother', OCS *ujĭ* 'mother's brother', ORus *ui* 'mother's brother' (OPrus and Slavic < **$h_2$eu$h_2$ii̯os*).

Derivatives include OIr *aue* 'grandson', ON *āi* 'grandfather', possibly Alb *vëlla* 'brother' < 'cousin' < 'mother's brother('s son)' reflecting either a metathesized diminutive **waládā* < **awádlā* < **$h_2$eu̯óh_2-dhlo-* or compound **awádlā* < **$h_2$eu̯h_2ó-dhlo-eh_a-*. Certainly there was a thorough-going tendency in the west and center of the IE world to create a term for 'mother's brother' on the basis of undoubtedly PIE **$h_2$eu$h_2$os* 'grandfather'. Whether we can reconstruct an additional meaning 'mother's brother' for **$h_2$eu$h_2$os* in PIE itself is much more problematic.

****su̯esrii̯os*** 'pertaining to a sister, sisterly; sister's son; ?mother's brother'. In the latter meaning only in Arm *k'eṙi* 'mother's brother'. Related are OSwed *swiri* 'mother's sister's son', OE *swor* ~ *(ge)sweor* 'mother's sister's son', *geswirga* 'sister's son; mother's brother's/sister's son, father's sister's son'. Assuming 'sister's son' as the oldest meaning allows us to explain Arm 'mother's brother' as an example of reciprocal naming (cf. OIr *aue* 'grandson' from **$h_2$eu$h_2$os* 'grandfather'

or OHG *enikl* 'grandson' from *ano* 'grandfather').

?*meh$_a$trōus 'mother's brother'. [cf. *IEW* 700–701]. Grk *μήτρως* 'mother's brother'. No other direct cognates exist but Robert Beekes has suggested that the existence of a PIE feminine **meh$_a$truh$_a$-* 'mother's sister', presupposes the prior existence of such a masculine form which may have only survived in Greek.

?*dheh$_1$- 'uncle'. [*IEW* 235 (**dhē-* ~ **dhē-dh(ē)-*); Buck 2.51]. Perhaps Lith *dėdė* 'uncle, father's brother, mother's sister's husband' (if not borrowed from Russian), Rus *djádja* 'maternal uncle' (cf. the related OCS *djadŭ* 'grandfather'), Grk *θεῖος* 'uncle'. The relationship between these words is not certain as the Lithuanian word may be a borrowing from Russian and, although both the OCS and Russian forms are related, the latter is not derived from the former. At best, a word of the center of the IE world but also possibly independent formations built on common forms employed by children, e.g., NE *dad(dy)*.

Mother's Brother

Since Delbrück's analysis of IE kinship terms it has been clear that terms for **h$_2$euh$_2$-* 'mother's brother' are derived from **h$_2$euh$_2$os* 'grandfather' although some languages possess a number of other derivatives for 'mother's brother' that most regard as later developments (e.g., Grk *μήτρως* 'mother's brother', OInd *mātula-* 'mother's brother'). Nevertheless, the association between the two terms has been regarded as crucial evidence for reconstructing an Omaha kinship system for Proto-Indo-European. Along with the proposed identity of 'sister's son' and 'daughter's son' under a common form **népōts*, the Omaha system would predict the lexical identity of 'grandfather, mother's father' and 'mother's brother', here suggested under a common term **h$_2$euh$_2$os*. The argument rests on the proposition that as some stocks give the meaning 'grandfather', some give the meaning 'mother's brother', and some give both meanings, it is logical to reconstruct both denotations to the proto-form. The evidence for this is in fact considerably more circumstantial and as with attempts to assign two kinship denotations to **népōts*, there are also critics of those who would try to unite 'grandfather' and 'mother's brother' under **h$_2$euh$_2$os*.

The meaning 'grandfather' is uncontested as that is the meaning (and the only meaning according to the critics) one recovers from the lexically cognate sets. Unlike the arguments concerning **népōts* where individual stocks do combine the two kinship categories under the same term, all of the proposed evidence for 'mother's brother' rests on *derivations* from **h$_2$euh$_2$os* and there is no certain example in any stock where precisely the same form gives both 'grandfather' and 'mother's brother'. The derivations vary according to stock or even within the same stock: Celtic extends the original root with the suffix **-tro-*, Latin extends with a diminutive **-tlo-*, Germanic forms a compound with **-haima-* variously explained as 'house' (PIE **k̂oimos*), i.e., 'one who lives in grandfather's house' or with **k^{w}oimos* 'value', i.e., 'dear grandfather', cf. Wels *tad-cu* 'grandfather' (< 'dear father'), Lithuanian extends with **-ih$_x$nos*, Old Prussian and Slavic both employ the familiar derivative suffix **-i̯os*. On comparative grounds then 'mother's brother' cannot be shown to be one of the meanings of **h$_2$euh$_2$os*. Moreover, it is not attested with the meaning 'mother's brother' in either Anatolian or Armenian where there is no derived form for 'mother's brother' but only the basic form 'grandfather'. Finally, the critics argue, one cannot even advance a common derivational form of this word back to PIE: the various root-related forms for 'mother's brother' would appear at best to be post-PIE developments in every individual stock in which they appear; moreover, these are confined to the western and central parts of the IE world.

One is left then with a circumstantial "tendency" in the west and central regions of the IE world to employ the word for 'grandfather' when coining a word to denote 'mother's brother' (obviously, supporters of the Omaha hypothesis would argue that this tendency was driven by the fact that the two denotations had been combined in the same word in the proto-language). It could be argued that even in Omaha kinship systems there is only a tendency to equate 'mother's brother' with 'grandfather' (and the latter term need not refer exclusively to 'mother's father'). It is noteworthy that in Omaha itself (the "eponymous ideal" of the Omaha kinship type) there is no equation of 'mother's brother' with 'grandfather'. Heinrich Hetterich suggests (as many others had before him) that there was no specific term for 'mother's brother' in PIE (or at least we have no grounds for reconstructing one) and that the cross-relatives were probably denoted descriptively (e.g., in addition to the etymologically difficult OIr *amnair* 'mother's brother', Old Irish commonly employed a descriptive term, *brāthair māthar* 'mother's brother'). To explain the widespread tendency to derive the word for 'mother's brother' from 'grandfather' the critics of the Omaha hypothesis often point to the special relationship obtaining between the 'mother's brother' and 'sister's son' among the early IE stocks.

It has often been observed that in patrilineal societies, as one would reconstruct for Proto-Indo-European, the relationship between father (and father's brothers) and son is that of a stern disciplinarian and obedient child, i.e., the relationship is emotionally "cool". In contrast, the boy will enjoy a much more affectionate relationship with his mother's brother who is outside the boy's lineage. Examples of such a relationship can be cited from early IE peoples, the most frequently quoted being that of Tacitus (*Germania* 20) on the early Germans where he observes that a sister's sons (*sororum filiis*) are regarded to be related to their mother's brother (*avunculum*) nearly as closely as to their own father (*pater*) and some tribes prefer to extract hostages on the basis of such a relationship as it involves a greater emotional hold on the family. Tacitus clarifies the situation by emphasizing that the line of legal descent and inheritance is from father to son. Here and other examples from both the early historical record of the Indo-European peoples and ethnographic samples from the rest of

the world indicate that such relationships between mother's brother (or maternal grandfather) and nephew are common. These relationships may have been intensified by the custom of fosterage where a son would be sent to live with his mother's brother, e.g., the Irish Cū Chulainn and his mother's brother Conchobor. The reasons for such a relationship are generally attributed to a number of factors: both the son and mother's brother are connected to each other through the same woman with whom they share an affectionate bond (mother-son, sister-brother); in a patrilineal descent system, the mother's brother (or mother's father) will have no authority to exercise over his sister's children since they are raised in a different kin-group (this is the opposite of the avunculate which operates in matrilineal systems where 'mother's brother' will occupy the role of stern disciplinarian as descent is reckoned along the mother's line; in this situation the father is in a more friendly relationship with his son). Hetterich suggests that as the Indo-Europeans moved to a more settled society, interpersonal relationships between previously distant relations became much closer and intense and new terms were required to designate them. In the case of the 'mother's brother', the term for the only other male who occupied a higher generation and might stand in an affectionate relationship with a boy would have been the '(maternal) grandfather' and it was from this word that new terms for the 'mother's brother' were derived. O. Szemerényi, while agreeing with the interpersonal relationships, suggests rather than the derivation is more easily explained by the fact that when the maternal grandfather (mother's father) died, her eldest brother would assume her father's position, i.e., the eldest 'mother's brother' was invariably a potential 'grandfather'.

See also GRANDFATHER; KINSHIP. [M.E.H., J.P.M.]

Further Readings

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UNDER

n̥dhés* ~ *n̥dhero- 'under, low'. [*IEW* 771 (**n̥dhos*); Wat 43 (**n̥dher-*); Buck 12.32]. From **n̥dhés*: ON *und* 'under', Arm *ənd* 'under', Lycian *ēti* 'down, below', OInd *adhás* 'under', TochA *āñc* 'downward, under', TochB *ette* 'downward, under' (both Tocharian forms with partially unexplained phonological developments); from **n̥dhero-*: Lat *īnfernus* 'lower', *īnfrā* 'below, under, beneath', ON *undir* 'under', OE *under* 'under' (> NE *under*), OHG *untar(i)* 'under', Goth *undarō* 'under', perhaps Grk *ἀθερίζω* 'despise', Lycian *ētre/i-* 'lower', Av *aδara-* 'the lower', OInd *ádhara-* 'lower'. Old in IE.

ner 'under'. [*IEW* 765 (**ner-*); Wat 44 (**ner-*)]. Umb *nertru* 'left', ON *norðr* 'north', OE *norþ* 'northern' (> NE *north*), OHG *nord* 'north', Grk *νέρτερος* 'further below, deeper', *νέρθεν* 'from below', *νειρός* (< **neri̯os*) 'the deepest', TochB *ñor* (< **nēru*) 'below, beneath, under, down'. Old in IE. Cf. Lith *neriù* 'plunge, dive into', *nerõvė* 'water nymph'. Note that the north is to the left when facing the rising sun, which was the PIE orientation for direction; the north is also the 'low' in contrast to the south where the noon-day sun reaches its height.

See also ADPREPS; DIRECTION; UP. [D.Q.A., A.D.V.]

UNDERWORLD

A number of Proto-Indo-European deities were represented as belonging to the underworld, beneath the physical surface of the earth. Their duties could include ruling or judging the souls of the dead, aiding the souls' transition between life and the afterworld, overseeing the processes of decay or rebirth from the soil, and guarding mineral resources. These deities were regarded with fear and were placated with special chthonic sacrifices, such as pigs or black animals.

Rulers of the underworld could be gods or deified men. The Greek god Hādēs (also called Ais and Aïdōneus, Roman Dīs or Plūtō) is the most clearly depicted chthonic deity, accepting the souls of the dead into his subterranean kingdom but not interacting with them in any way. The mineral resources of the earth were his, and he is often depicted with a wolfskin cap which represents both his function as guard dog at the gate of his realm and the wolfish ferocity of his character, attested by such epithets as *παντοφάγος* 'all-devourer' and *σαρκοφάγος* 'body-devourer'. But although he was viewed with dread for what he represented, Hādēs was not considered to be hostile to humanity; another of his epithets was *πολύξενος* 'hospitable', and the name Hādēs can be analyzed as 'reunionist' from **sm̥-u̯id-*, referring to the souls' reunion with their ancestors. Appropriate sacrifices to Hādēs were black cocks, cows, sheep, or pigs, offered in the evening or at midnight in a pit.

Rulers of the dead in other branches of IE often had some more important aspect as well. The Norse Þórr was god of battle and thunder as well as the leader of the souls of thralls or those who did not die a warrior death. Slavic Perun, Lithuanian Perkūnas, and Thracian Zalmoxis, all thunder gods, also were associated with the spirits of the dead, as was Baltic Pecullus or Patollus (with many variant spellings). Pecullus was closely connected with Lithuanian Vēlinas (also Velnias, Old Russian Veles or Volos), god of horned animals but also god of the underworld. Here the link is between the death aspect and the fertility aspect of the underworld.

There is some evidence in both Hittite and Baltic for a goddess of the dead, a chthonic solar deity, akin to the Hattic Lelwani, but this is probably the result of borrowings. Greek Dēmētēr too has underworld associations; at Phigalia in Arcadia there was a cult of Dēmētēr as Death-Mother, and her daughter Persephonē was Hādēs' consort for part of the year. But in both of these cases, the death aspect is a facet of the vegetation cycle, the fallow period which precedes new growth, rather than a real connection with the spirits of the human dead.

In some IE branches the ruler of the afterworld was a deified

man, an ancestor of the human race and the first man to die. Indic Yama discovered the Path of the Fathers and followed it to the afterworld, where he became King of the Dead (*RV* 10.14). His original responsibility was merely to preside over the happy reunions of the spirits of the dead, but in later literature he chose who would die, pursued and captured their souls, and judged the dead. In the west, Celtic Donn and his grandfather Bili were both considered original ancestors of the Celtic people and gods of the dead.

Indic Varuṇa, god of creation and cosmic law, assisted Yama in judging the souls of the dead and consigning some to annihilation or punishment; in Avestan tradition Miθra, Sraosha, and Rashnu shared the judging, and in Hādēs, according to Greek tradition, Mīnōs, Rhadamanthys, Æacus, and Triptolemus performed the same function.

Also associated with but not resident in the underworld were the psychopomps, gods who guided the spirits of the dead to their final destination. Indic Pūṣan, the pathfinder and god of flocks, and Greek Hermēs, the messenger god, both had this as a secondary function.

Another aspect of the underworld is the decay and disintegration of death; this was represented in Indic by Nirṛta and his consort Nirṛti, to whom only black grains or animals were offered. Iranian Nasu was an Iranian double of Nirṛti, with a Roman counterpart in Lua Māter. It is probable that Polish Nyia can also be added to the list, giving sufficient evidence to posit a PIE goddess of decay.

Death itself can be seen as a personified agent: Greek Thanatos, the Roman Orcus, and Breton Ankou track down and capture the souls of those who are to die. These are gods without personalities or cults, and need not be taken as reflections of a PIE original. However, there is evidence throughout the different branches for sinister female spirits or goddesses connected with death and the underworld. Greek Moira, originally a minor goddess of fate, became linked with death and was occasionally represented as the dealer of death. The Erinyes, avengers of wrongs, the Harpies, birdlike spirits, and the Keres, malevolent birds of prey, were all female death-dealers based in the underworld. The Irish Morrīgan was a goddess of war, sometimes referred to as the three Morrīgans; she presaged death in battle and chose those who would die. The Norse Valkyries were winged female choosers of the slain, but associated with the sky-afterworld Valhalla where the souls of those who died in battle were rewarded. However the *disir*, female spirits who met the souls of the dead, did have an underground association. These may be a reflection of the earth or hidden goddess, seen in Greek Calypsō, Norse Hel, Germanic Frau Holle, Batavian Nehalennia, Frisian Hludana, and Roman Mania or Laria: each of these names contains a root meaning 'hide', referring to the role of earth in concealing the disintegration of the corpse. The Greek witch-goddess Hekatē with her shadowy chthonic origin and functions may also belong in this category.

A final group of minor deities resident in the underworld is the ferrymen, of whom the Greek Kharōn, who ferried the souls of the dead across the underworld river Styx or Acherōn, is the best known. In Norse mythology Ōðinn was occasionally seen in the guise of an otherworldly ferryman, and Guðmundr also acted as a ferryman between the human world and a supernatural realm. Celtic Barinthus, who took the dying King Arthur to Avalon in Geoffrey of Monmouth's *Vita Merlini*, may be another representation of a PIE concept.

It is apparent that the PIE underworld was inhabited by a number of different deities and spirits, including a ruler of the dead, a hider goddess, a goddess of decay, and one or more choosers of the dead. In addition, various deities with other primary duties had an underworld aspect.

See also **Death Beliefs**. [L.J.H.]

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UP

h₄upó 'up (from underneath), rising into view'. [*IEW* 1106 (**upo*); Wat 72-73 (**upo*); GI 104]. OWels *gwo-* (preverb), ON *of* 'over', OE *ufe-* 'on', OHG *oba* 'over', Goth *uf* 'under' (cf. with geminated consonant ON *upp*, OE *upp(e)* 'up'), Grk ὑπό '(to) under, by; towards, at (the time of)', Av *upa* 'towards', OInd *úpa* 'upwards, towards'. The underlying verb is preserved in Hit *ūpzi* '(the sun) rises' and Alb *hypem* (< **h₄up-i̯e/o-*) 'go up', *hypi* ~ *hipi* (< **h₄up-ni̯e/o*) 'mount, climb up on'. In the various stocks the meaning has tended to be specialized to either 'underneath' or 'up'. Old in IE.

s-h₄upó 'underneath'. [GI 104]. Lat *sub* 'under', *animalia suppa* 'animals (on all fours)', *sus-* (< **subs-*) 'under', Arm *hup* 'near', Hit *suppala-* 'animal', TochB *spe* 'near'. This combination, presumably originally identical in meaning with the previous entry, has tended to be restricted to the meaning 'underneath'.

ūd 'upward, out (from under)'. [*IEW* 1103 (**ŭd-*); Wat 72 (**ud-*); GI 212 (**ut^h-/*ut'-*)]. ON *ūt* 'out', OE *ūt* 'out' (> NE *out*), OHG *ūz* 'out', Goth *ūt* 'out', Grk (Cypriot) ὑ- 'on', OInd *ud-* 'out of'. Cf. **ud-s*: OIr *ōs-* 'up, off', Lat *us-que* 'continuously', ON *ōr* 'out of', OE *or-* 'out of', OHG *ur-* 'out of', Goth *us* 'out of', Lith *už-* 'for, toward', Latv *uz* 'to', OCS *vŭz* 'up to', Av *us-* 'up (on)'. Germanic also has suffixed forms: ON *ūtan* 'outside', OE *ūtan* 'outside', OHG *ūzan(a)* 'outside'. Cf. **ud(s)* + *-tm̥mo-* in Indo-Iranian: Av *us-təma-* 'last', OInd *ut-tamá-* 'highest'. Old in IE.

h₂en-h₂e 'up (onto), upwards, along'. [*IEW* 39–40 (**an*); Wat 2 (**an*); BK 425 (**an^y-/*ən^y*)]. OE *on* 'on' (> NE *on*), OHG *an* 'on', Goth *ana* 'at, on', Grk ἀνά 'up on, up along; over, through, among', Av *ana* 'onto'. Old in IE. Cf. Lith *anót(e)* 'according to'.

h₂en-u 'up (onto), upwards, along'. [*IEW* 39–40 (**anu*); BK 425 (**an^y-/*ən^y*)]. Av *anu* 'after, corresponding to, towards', OInd *ánu* 'after, along, over, near', TochA *eṣak* 'on top of', TochB *oṃṣmeṃ* 'from above' (Toch < **h₂enu-dhi*). An "easternism" in IE.

See also **Adpreps**; **Over**. [D.Q.A.]

URINATE

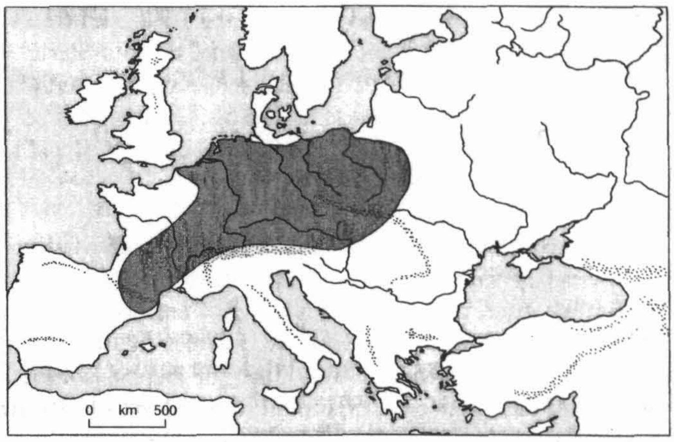
h₃méiĝhe/o-** (h₃min(e)ĝh-**) 'urinate'. [*IEW* 713 (**meiĝh-*); Wat 40 (**meigh-*); Buck 4.65]. Lat *mēiō* ~ *mingō* 'urinate', ON *mīga* 'urinate', OE *mīgan* 'urinate', Lith *minžù* ~ *mě̃žu* 'urinate', Latv *mīzu* ~ *mêzu* 'urinate', SC *mȉžati* 'urinate', Grk *ὀμείχω* 'urinate', Arm *mizem* 'urinate', Av *maēzaiti* 'urinates', OInd *méhati* 'urinates'. With wide geographical spread and near identity in form and meaning, the verb is a very strong candidate for PIE status. Cf. the nominal derivatives: OE *micga* 'urine', Grk *ὄμειχμα* 'urine', Arm *mēz* 'urine', Av *maēsman-* 'urine', *gao-maēza* 'cow-urine', OInd *meha-* 'urine', TochB *miśo* 'urine'. These are all very banal derivatives of the basic verb, none of which is necessarily very early.

See also ANATOMY; CLEAN. [D.Q.A.]

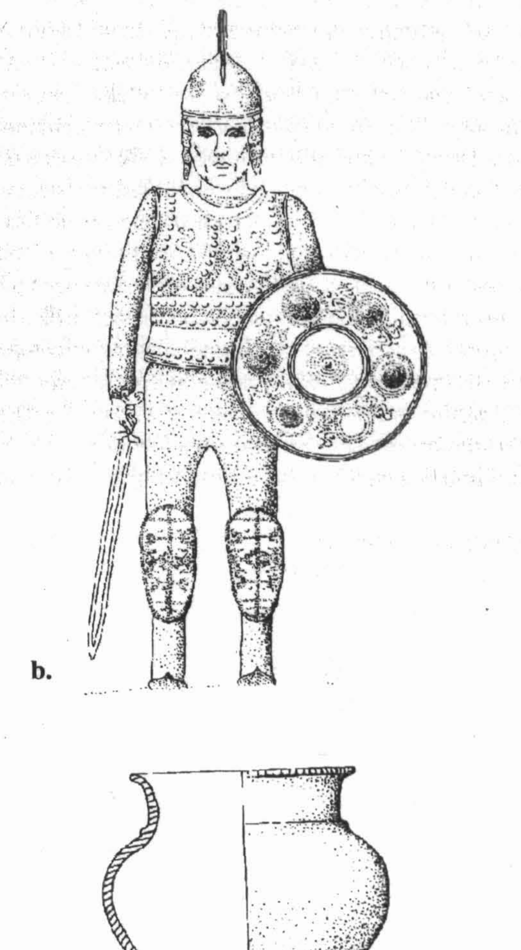
URNFIELD CULTURE

The Urnfield culture is the major late Bronze Age (*c* 1300–700 BC) culture of temperate Europe. Its name derives from its most characteristic site type, cemeteries involving the deposition of the cremated bones in an urn, usually capped by a plate or specially designed top, and accompanied by weapons and ornaments. Settlements are known and concentrations have suggested tribal territories across the Urnfield territory. Defended settlements, especially hillforts and promontory forts, are among the most spectacular along with a number of lake-side and island sites. Much less substantial undefended sites are also recorded. Technologically, the Urnfield culture embraces the final development of late Bronze Age metalwork, seen in bronze swords, razors, knives, sickles, a wide variety of pins, and sheet metal work displayed in the production of helmets, armor, shields and vessels. The culture is divided into many regional groups, the most substantial being the Lusatian (Lausitz) group or culture that occupied Poland, east Germany, the former Czechoslovakia and the western Ukraine.

The Urnfield culture has often been ascribed with individual or multiple ethnic identities and a number of IE expansions have been credited to the appearance of urnfields in the peripheral regions of Europe. As the urnfields of western Europe occupy the same region as the later Hallstatt and La Tène cultures, it has been identified as Proto-Celtic. This identification has been regarded as particularly important with regard to the emergence of the Celts in Iberia since the subsequent Celtic-associated cultures, the Hallstatt and La Tène, are virtually absent from Iberia while there is at least evidence for some Urnfield contacts although, it must be admitted, the distribution of Urnfield sites does not correlate specifically with Celtic settlement. The appearance of the Villanovan culture in Italy and its subsequent development in the late Bronze Age has also been credited to Urnfield migrations (also simply to technological and ritual diffusion) and hence the Urnfield culture has been seen as Celtic and Italic (and Venetic). Further east, where the Urnfield culture appears in Croatia or east central Europe, an Illyrian identity



Urnfield a. Generalized distribution of the Urnfield culture(s).



Urnfield b. Reconstruction of Urnfield warrior; c. Urn.

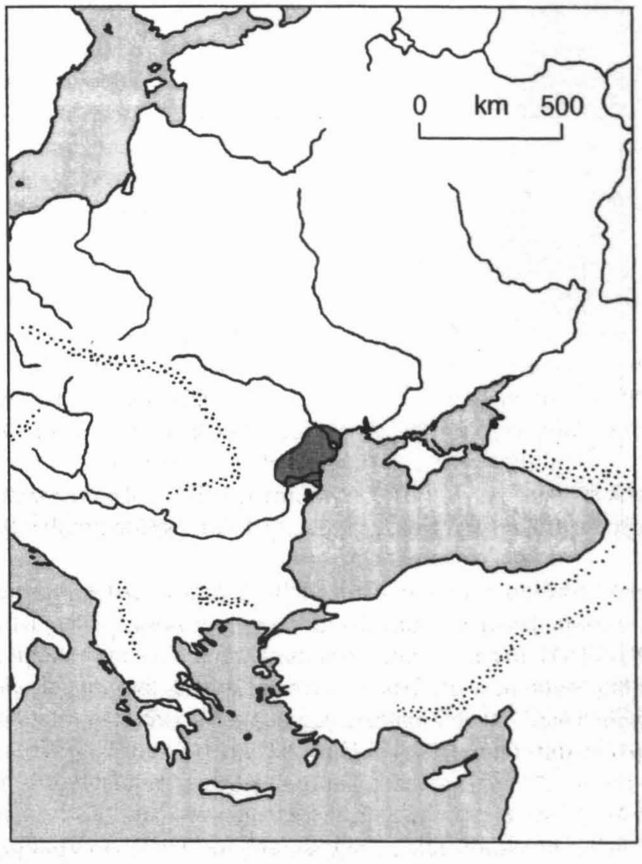
has been sought while those who seek the Slavic homeland in Poland would claim the Lusatian culture as Proto-Slavic.

See also CELTIC LANGUAGES; GOLASECCA CULTURE; HALLSTATT CULTURE; ITALIC LANGUAGES; LA TÈNE CULTURE; VILLANOVAN CULTURE. [J.P.M.]

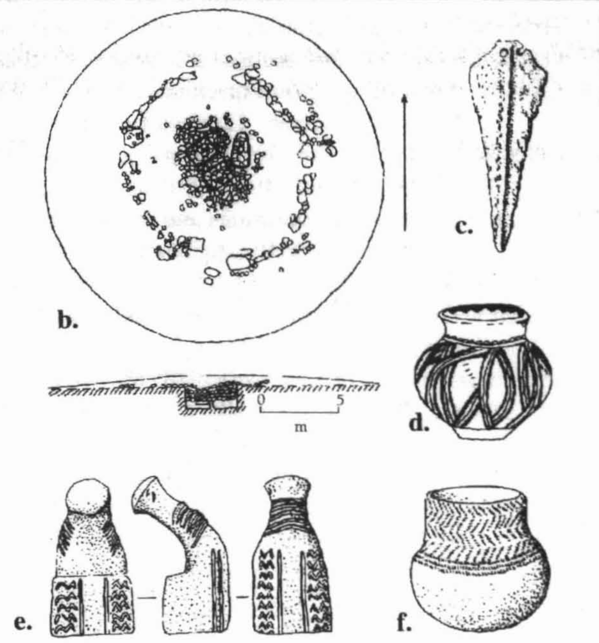
USATOVO CULTURE

Usatovo is a late variant (*c* 3500–3000 BC) of the Tripolye culture occupying the northwest area of the Black Sea. The culture has been regarded as a mixture of native southeast European Neolithic elements (painted ceramics, figurines, flat graves) and culture traits drawn from the steppe cultures (shell-tempered coarse wares, tumulus burial, horse). It also displays metallic items, both arsenical bronze and silver, which suggest more distant contacts with the north Caucasus. Within the "Kurgan model" of IE expansions, the Usatovo culture reflects the domination of the Tripolye agriculturalists by the presumably IE-speaking steppe tribes. On the other hand, the territory of the Usatovo culture was not previously occupied by the Tripolye villagers and Usatovo expansion into the steppe region around Odessa may account for a much more complex cultural genesis. Either way, the Usatovo culture shares similarities with a series of other terminal Copper Age/early Bronze Age cultures of the Balkan-Danubian region and a circum-Pontic interaction sphere of contacts (seen, for example, in the spread of copper and bronze daggers) would appear to have extended from the steppe south through the Balkans to north Anatolia and Troy.

See also CERNAVODA CULTURE; KURGAN TRADITION; TRIPOLYE CULTURE; YAMNA CULTURE. [J.P.M.]



Usatovo a. Distribution of the Usatovo culture.



Usatovo b. Plan of kurgan at Usatovo; c. Bronze dagger; d. Late Tripolye pot; e. Usatovo figurine; f. Corded-decorated vessel ("kitchen ware").

USE

dheugh- 'be useful, produce something useful' (pres. ***dhóughei***). [*IEW* 271 (**dheugh-*); Wat 14 (**dheugh-*); Buck 5.87]. OIr *dūal* (< **dhuĝhlo-*) 'fitting', *dūan* (< **dhuĝhneh$_a$-*) 'poem', ON *duga* (pres. *daug*) 'be useful', OE *dugan* (pres. *dēag*) 'be useful', *dyhtig* 'doughty', *ge-dīegan* 'carry out, prevail', OHG *tugan* (pres. *toug*) 'be useful', *tuht* 'usefulness', Goth *dugan* (pres. *daug*) 'be useful', Lith *daũg* ~ *daugi(a)* 'much', Latv *daũdz* 'much', Rus *dúžyj* 'strong, healthy', Grk *τυγχάνω* 'meet, attain a goal', *τύχη* 'success, good fortune', *τέυχω* 'prepare', OInd *doháti* ~ *dógdhi* 'extracts, milks' (< *'brings into use'). Widespread and old in IE.

bheug- 'use' (pres. ***bhunékti/*bhunktór***). [*IEW* 153 (**bheug-*); Wat 8 (**bheug-*)]. Lat *fungor* 'am engaged in, perform', *perfungor* 'use up', OInd *bhunákti* 'aids, serves, protects', *bhuṅkté* 'enjoys, uses, consumes'. Though not widely attested, the geographical distribution strongly suggests PIE status.

?*neud- 'use, enjoy'. [*IEW* 768 (**neu-d-*); Wat 44–45 (**neud-*); Buck 9.423]. ON *njōta* 'use, enjoy', *nyt* 'profit, advantage', *naut* 'work animal, ox', *nautr* 'wealth', OE *nēotan* 'use, enjoy', *nytt* 'profit, advantage', *nēat* 'work animal, ox' (> NE *neat*), OHG *niozan* 'make use of', *nōz* 'cattle', Goth *niutan* 'attain, enjoy', *ga-niutan* 'obtain, catch', Lith *naudà*

'use, property', Latv *naũda* 'money'. Restricted to Baltic and Germanic; perhaps a word of the IE northwest.

See also ACCOMPLISH; CLEAN; MILK. [D.Q.A.]

UTERUS

$g^{(w)}$elbhus 'womb'. [*IEW* 473 (*g^{u}elbh-*); Wat 24–25 (*g^{w}elbh-*); GI 716 (*k^{o}elb^{h}-*); Buck 4.47; BK 338 (*k^{w}alb-/ *k^{w}əlb-*)]. OE *cilfor-lamb* 'ewe lamb', OHG *kilbur* 'ewe lamb', Grk *δελφύς* 'uterus', *ἀδελφεός* (< *sm̥-g^{w}elbheįos* 'from the same womb') 'brother', Av *gərəbuš-* 'new-born animal'. Also *$g^{(w)}$olbho-* 'womb, fruit of womb' in ON *kalfr* 'calf', OE *cealf* 'calf' (> NE *calf*), OHG *chalb* ~ *chalp* 'calf', Goth *kalbō* 'calf', Grk (Hesychius) *δολφός* 'womb', Av *garəwa-* 'uterus', OInd *gárbha-* 'uterus'. The Germanic words suggest an initial *g-, the Grk *g^{w}-. Indo-Iranian is indecisive. The pre-Greek *g^{w}- (attested Grk *d-*) may owe its labialization to assimilation to the following *-bhu-*. Conversely the non-labialized initial in Germanic may be dissimilatory. In either case *$g^{(w)}$elbhus* would appear to have been at least the late PIE term for 'womb'. More difficult to relate are: ON *hvelpr* 'young animal, whelp', OE *hwelp* 'young animal, whelp' (> NE *whelp*), OHG *welf* 'young animal, whelp' (< *k^{w}elbos*); OCS *žrěbę* (< *g^{w}erbhen-*) 'foal', Grk *βρέφος* (< *g^{w}rebhos*) 'foetus; new-born'; more distant yet are Hit *huēlpi-* 'young, fresh, new, unripe; new-born animal' or Lat *vulva* ~ *bolva* ~ *volba* 'womb' and OInd *úlba-* ~ *úlva* 'membrane covering the embryo; womb, vulva'. Perhaps we have more than one word here, sufficiently similar in phonological shape and semantic referent to have naturally influenced one another in ways we cannot now disentangle. Alternatively there may have been a single PIE form whose meaning was such that its shape was subject to taboo deformation.

See also ANATOMY; BEAR^{2}; SEXUAL ORGANS AND ACTIVITIES. [D.Q.A.]

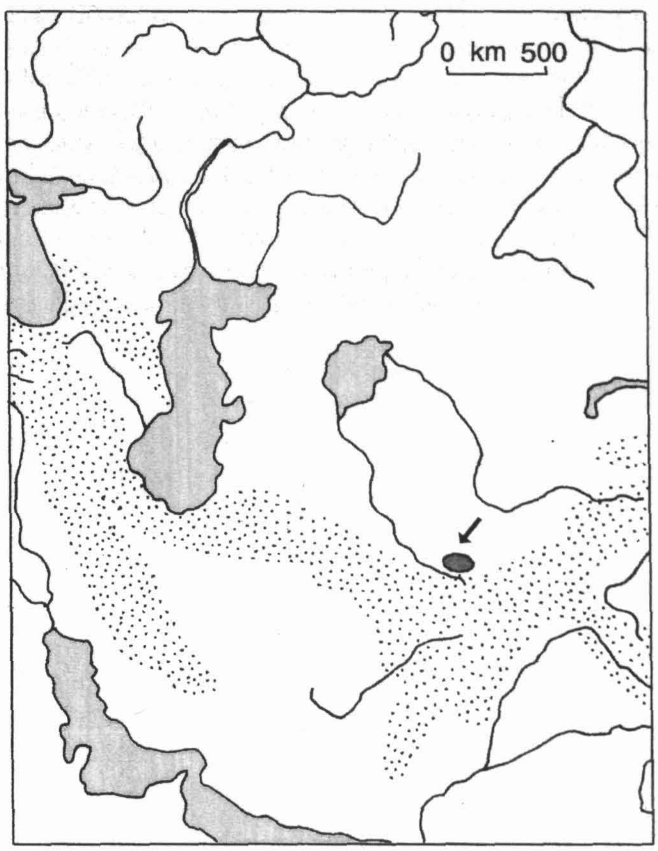
·V·

VAKHSH CULTURE

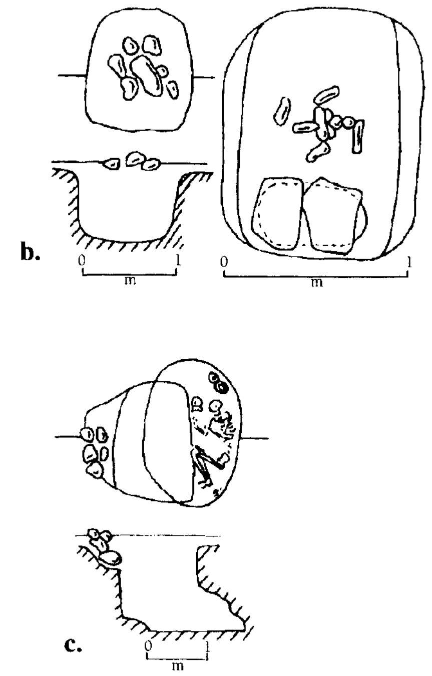
The Vakhsh culture is a late Bronze Age culture situated in the middle and lower reaches of the river Vakhsh of southern Tadzhikistan. It is dated to the period c 1700–1500 BC and would appear to be somewhat later than the neighboring Bishkent culture with which it shares many parallels. Settlement evidence is meager but does attest to the use of stone walls and mud-brick constructions; at Kangurt Tut in the Vakhsh valley the houses contained living quarters, hearths, and storage pits for grain (barley and wheat). Faunal remains revealed cattle, followed by sheep/goat, horse, donkey, camel, deer and dog.

The Vakhsh culture is known primarily from its burials. These were made in catacomb graves with entrance shafts blocked by earth and stones and the whole grave covered over with a mound. The ritual use of fire was associated with a quarter of the tombs. Males were buried on their right sides, females generally on their left; orientation was to the north. In some cases the graves served as cenotaphs—occasionally clay figurines replaced the remains of the deceased. The grave goods were generally poor: hand-made pottery predominated as one would expect from a pastoral society although 30% of the vessels were wheel-thrown. Among the few metal remains were razor-like knives and mirrors; arrowheads were made of flint or bone.

The ceramics of the Vakhsh culture contain a mixture of both steppe wares and those more typical of the BMAC and the culture has been interpreted as an amalgam of two traditions, one involving settled agriculturalists and another of more northerly based pastoralists who may have engaged in long distance transhumance with their flocks. But Bertille



Vakhsh a. Distribution of the Vakhsh culture.



Vakhsh b. Simple pit grave; c. Catacomb grave.

Lyonnet has suggested that there are problems in seeing the culture as a simple amalgam. The paucity of metal artifacts has suggested that identifying the Vakhsh culture as part of the Andronovo continuum of well developed metal-using cultures is far from entirely certain while some 19% of the ceramics have no local parallels in Andronovo or the neighboring territories. As is the case with the Bishkent culture, the Vakhsh culture has generally been linked with early Indo-Aryan movements southwards from the steppe which involved a certain amount of cultural assimilation as they passed through Central Asia but Lyonnet warns that if the Andronovo component is uncertain we may be dealing with an unknown ethno-linguistic element.

See also **Bishkent Culture**; **BMAC**; **Indo-Iranian Languages**. [J.P.M.]

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VALLEY

dhólh$_a$os** 'valley; vault, cavity'. [*IEW* 245–246 (**dhel-*); Wat 13 (**dhel-*)]. Wels *dôl* 'valley, meadow', ON *dalr* 'valley; bow', OE *dæl* 'valley' (> NE *dale*), OHG *tal* 'valley', Goth *dals* 'ravine, valley', OCS *dolŭ* 'pit, valley', *dolě* 'below', *dolĭnĭ* 'being below', Rus *dol* 'valley, under side', *dólĭnij* 'being below', perhaps Grk **θόλος** 'vault' (though its connection here has been doubted), Sarikoli **δer* 'ravine', Yazghulami **δ***ŭ̊r* 'ravine'. Cf. also OE *dell* 'ravine, dell' (> NE *dell*), MHG *telle* 'ravine' (as if < **dholh$_a$i̯o-*), ON *dœl* 'small valley', OHG *tuolla* 'small valley' (as if < **dhōlh$_a$i̯eh$_a$-*), ON *dæla* 'ditch' (as if < **dhēlh$_a$i̯eh$_a$-*), OHG *tol(a)-* 'channel, pit' (as if < **dhl̥h$_a$o/eh$_a$-*), Grk **θάλαμος** 'inner room of a house, storeroom; abode; sheepfold; hold (of a ship)' (as if < **dhl̥h$_a$mos*). Some have claimed the Slavic words are borrowings from Germanic but more commonly they are taken as native. The Greek words are often rejected on phonological grounds, though they are not problematic if we derive them from **dholh$_a$-* rather than **dhol-*. Widespread and old in IE.

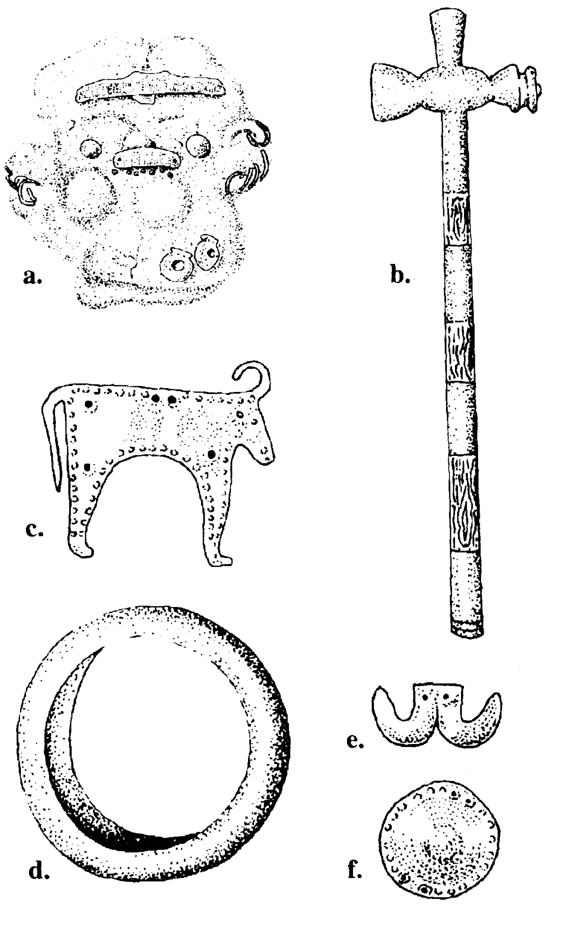
***lónko/eh$_a$-** 'valley'. [*IEW* 676–677 (**lonkā*)]. Late Lat **lanca* (< Gaul?) 'depression, bed of river' whose reflexes are found in the south of France, in French-speaking Switzerland and in northern Italy, Swiss German *lauch* 'trough' (from the same source), Lith *lankà* 'valley, river-meadow', OCS *lǫka* 'gulf, valley, meadow, marsh', Rus (dial.) *luká* 'river-meadow, flood plain', TochB *leñke* 'valley'. From **lenk-* 'bend'. The agreement of Balto-Slavic and Tocharian would seem to guarantee this word for at least late PIE.

See also **Cavity**. [A.D.V., D.Q.A.]

VARNA

Varna refers to the famous Copper Age cemetery on the Black Sea coast in Bulgaria. The cemetery, which dates to the period *c* 4500–4000 BC, is one of if not the richest known in early prehistoric Europe. It has yielded so far 281 graves which may be divided into three groups: fifty-six cenotaphs where the burial was altogether absent or only a few bones have been deposited; ninety burials in the extended position which have been usually assigned to males; and sixty-five burials in the flexed position (assigned as a rule to females). The head is generally oriented NNE. The wealth of metallic and other objects in the graves was exceptional. Several graves contained clay masks which were decorated or had features such as the mouth delineated by gold and copper ornaments; these were identified as female masks as they are easily paralleled by the masks depicted on female figurines in the east Balkans. Scepters and perforated axes with gold decorated handles were found. Over three thousand objects of gold (6 kg) were recovered along with a large quantity of copper artifacts. Other goods included fifty stone axes, bone and antler objects, a thousand shell ornaments, stone beads, flint blades, scrapers, and six-hundred pots.

The variation in wealth among the graves has generally been interpreted as indicating marked differences in the status of the deceased and, consequently, has supported the hypothesis that this region of the east Balkans already saw the development of some form of stratified or ranked society in the Copper Age. It is important to note that among the



Varna a. Mask; b. "Symbol of power" with gold head and gold and wood handle; c. Bull pendant of gold; d. Bracelet; e. Gold pendant; f. Button.

wealthiest burials were several assigned to males and burials with a golden diadem and scepter are plausibly interpreted as symbols of power. Children were sometimes accompanied with very rich grave goods and symbols of authority which suggests that they belonged to important families. The general conclusion is that Varna along with several other contemporary cemeteries of the same region reflect well stratified societies. This interpretation has been held to be in contrast with that of other mortuary evidence for the Balkans that suggested egalitarian societies during the Neolithic and Copper Age.

In the "Kurgan theory" as propounded by Marija Gimbutas, marked social hierarchies with males at their apex were introduced to the Balkans by the Indo-Europeans who should have appeared in the region only after the floruit of the Varna cemetery. She interpreted the rich male burials at Varna as indicating the localized acquisition of exotic goods by tradesmen and not evidence for the emergence of IE chieftains although she also suggested that the movement to personal possessions (in opposition to communally-held wealth) may have been under the influence of Indo-Europeans. Jan Lichardus endorses this latter theory and has suggested that pastoralists from the steppelands (the Sredny Stog culture) would have periodically come into contact with the settled agriculturalists of the east Balkans (we know that they obtained copper from them which was exchanged as far east as the middle Volga) and influenced the local social structure and beliefs with their own. That a steppe element may have been involved has been recently supported by the discovery of a small cemetery at Giurgiuleşti on the lower reaches of the Prut. Here were found burials interred according to the rituals of the steppe, e.g., buried in the flexed supine position, use of ocher, catacomb and timber constructions, and with artifacts typical of the steppeland cultures (the Novodanilovka culture) but there were also objects more typical of Varna, e.g., a gold decorated "baton". Another feature, sometimes attributed to the Indo-Europeans by supporters of the "Kurgan theory", is the marking of sex in the burial rite and at Varna and several other sites, males are placed in a position (extended) that contrasts with that of females (flexed).

It has also been suggested that the Varna cemetery may reflect something other than social status of the individuals but that there is persuasive evidence for the expression of religious ideologies, some of which have been proposed with reference to traditions found among the Indo-Europeans. Some 20% of the grave pits lack any evidence of the deceased and it is held unlikely that all of these can be explained simply as individuals who died too distant from the site to be buried within the cemetery. They include some of the wealthiest burials and it has been suggested that they reflect the deposition of the symbols of power and not the leaders themselves. The widespread practice of replacing a king (or a substitute), ritually or otherwise, is known throughout the Near East and neighboring territories where it has long been placed in an interpretive framework which associates the king with the fertility of the land which may be renewed by despatching the former king after a set period. In this scheme, the exceptionally wealthy graves, with ornaments and objects arranged in the same relative location as those graves with skeletal remains, may represent the ritual "killing and disposal" of the leader of a society after a set time period. It has also been suggested that the presence of copper tools, especially those employed in the working of wood and metal, were symbolic of the concept of the craftsman as specifically the "creator" as occurs frequently in IE religious literature where smith deities are portrayed as fashioning the world, other deities or mankind. Three of the "smith" burials were found adjacent to the three burials with clay masks which has prompted their interpretation as matched pairs of male "smith" burials and female masked burials. It should be emphasized that while various archaeologists have attempted to interpret the burials in light of evidence taken from Indo-European cultures, none of these models is in any way unique to the Indo-Europeans.

See also Social Organization. [J.P.M.]

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VAULT

kamareh$_a$- 'vault'. [*IEW* 524 (**kam-er-*); Wat 26 (**kamer-*); Buck 7.21]. Grk *καμάρᾱ* 'vault', Av *kamarā* 'belt'. From **kam-er-* 'bend, curve'. Common Latin *camera* is a Greek loan which gives French *chambre* > NE *chamber.* A central isogloss or possibly borrowed into Iranian from Greek which itself borrowed it from an unknown source.

See also VALLEY. [A.D.V.]

VEGETABLES

?*ālu- '± esculent root'. [*IEW* 33 (**ālu-*)]. Lat *ālium* ~ *allium* 'garlic', *ālum* ~ *ālus* 'comfrey (*Symphytum officinale*)', OInd *ālú-* 'an esculent root (*Arum campanulatam*)', *ālukám* 'the esculent root of *Amorphophallus campanulatas*'. The exact meaning of the ancestor of these two words, if indeed their similarity reflects inheritance rather than chance resemblance, is not determinable. Indeed, even in the Latin cognates there is a marked difference between comfrey, whose roots and leaves were employed as poultices for curing fractures, and garlic, which was consumed both for culinary and medicinal reasons. Probably but not certainly PIE.

k̂éh$_1$kom 'edible greens' (< *'foliage'?). [*IEW* 544 (**k̂ēko-*); GI 84 (**k̂^{h}ēk^{h}o-*); Buck 5.65]. ON *hā* (< Proto-Gmc **hēh(w)ōn-*) 'aftermath, second crop of hay', OPrus *schokis* 'grass', Lith *šẽkas* 'green fodder', Latv *sę̂ks* 'green fodder', OInd *śāka-* 'potherb, vegetable, greens'. Though its attestation is sparse, it is also wide. Note that it refers to animal food in the west but human food in the east. Clearly a word of PIE date.

krémh$_x$us (gen. ***kr̥mh$_x$óus***) '(wild) garlic (*Allium sativum* or *Allium ursinum*)'. [*IEW* 580 (**krem-*); Wat 32 (**krem-*); Buck 5.68]. MIr *crem* ~ *crim* 'garlic', Wels *craf* 'garlic', perhaps Grk *κρέμ(μ)υον* ~ *κρόμ(μ)υον* (if from **krémh$_x$uu̯om*) 'onion'. Cf. the derivative **krémh$_x$uso/eh$_a$-*: OE *hramsa* 'onion, garlic' (> NE *ramson*), OHG *ramusia* 'wild garlic', Lith *kremušė* 'wild garlic', Rus *čeremšá* 'wild garlic', and perhaps Grk *κρέμ(μ)υον* if from **krémh$_x$usom.* A word of the west and perhaps center of the IE world.

Except for Greek this word refers to the wild garlic (*Allium ursinum*). Garlic is poorly preserved in the archaeological record and the earliest evidence for domestic garlic (*Allium sativum*) derives from Egyptian tombs of the eighteenth dynasty (sixteenth–fourteenth centuries BC) while Akkadian texts suggest its existence in the Near East by the early second millennium BC. In Europe remains are known buried under the volcanic ash at Pompeii. The domestic garlic is believed to derive from *Allium longicuspis* Regel, the wild garlic of Central Asia, northern Iran and southeastern Turkey. Other varieties of wild garlic are distributed across southern Europe. It is not one of the plant remains found in the Swiss lake-side dwellings which offer the most abundant evidence for early preserved organic material in Europe.

mr̥k- '± carrot'. [*IEW* 750 (**mrk-*)]. OE *moru* ~ *more* 'carrot' (> NE *more*), OHG *moraha* 'carrot', Rus *morkóvī* 'carrot', Grk (Hesychius) *βράκανα* 'wild vegetables'. At least a late IE term in the west and center of the IE world. The carrot (*Daucus carota*) is a native of western and central Asia, particularly Afghanistan, and its spread to Europe is at least before the Christian era. Indeed, remains are known from Swiss lake-side dwellings consistently from the Neolithic period through the late Bronze Age. The wild carrot has a reputation for being both tough and unappetizing but the leaves might also be employed for medicinal reasons such as easing bladder problems.

rēpéh$_a$- ~ ***rāpéh$_a$-*** 'turnip (*Brassica rapa* or *B. napobrassica*)'. [*IEW* 852 (**rāp-*); Wat 53 (**rāp-*)]. Lat *rāpum* ~ *rāpa* 'turnip', ON *rōfa* 'bony part of a horse's tail', OHG *ruoba* ~ *rāba* 'turnip', Lith *rópė* 'turnip', OCS *rěpa* 'turnip'. Cf. Grk *ῥάπυς* ~ *ῥάφυς* 'turnip', *ῥάφανος* 'cabbage'. Cf. also Lat *rāpīna* 'turnip field', Lith *ropienà* 'turnip field' < **rāpeineh$_a$-*. The interchange of **-ē-* and **-ā-* in the attested reflexes makes the exact shape of this word difficult to recover. It is quite possible (certain in the case of Greek) that this word has been borrowed at various times from one IE language to another. In some form, however, it is likely to have been at least late PIE in date in the west and center of the IE world. The wild turnip is distributed over Europe and western Asia. The date of its domestication is unknown although the Romans employed the turnip in northern France.

?*kaulós '± cabbage (*Brassica sp.*)'. [*IEW* 537 (**kau-li-*); Wat 27 (**kaul-*); Buck 5.69]. Lat *caulis* 'cabbage', Grk *καυλός* 'a vegetable of the cabbage kind: cole, kail, cauliflower', Hit *kaluis(si)na* (a kind of vegetable). In both Latin and Greek there are identical words meaning 'stem, stalk'. The dialect distribution of this word suggests that it may have been borrowed by the three IE groups from some Mediterranean source but the fact that it appears to be a specialization of the meaning 'stalk' (earlier cabbages, etc., had a distinct stalk) means that the word itself is of PIE date. The distribution of the wild cabbage encompasses the Mediterranean and Atlantic coast from whence it was probably domesticated at some time before the Roman period.

See also AGRICULTURE; FOOD; PLANTS; STALK. [D.Q.A., J.P.M.]

VENETIC LANGUAGE

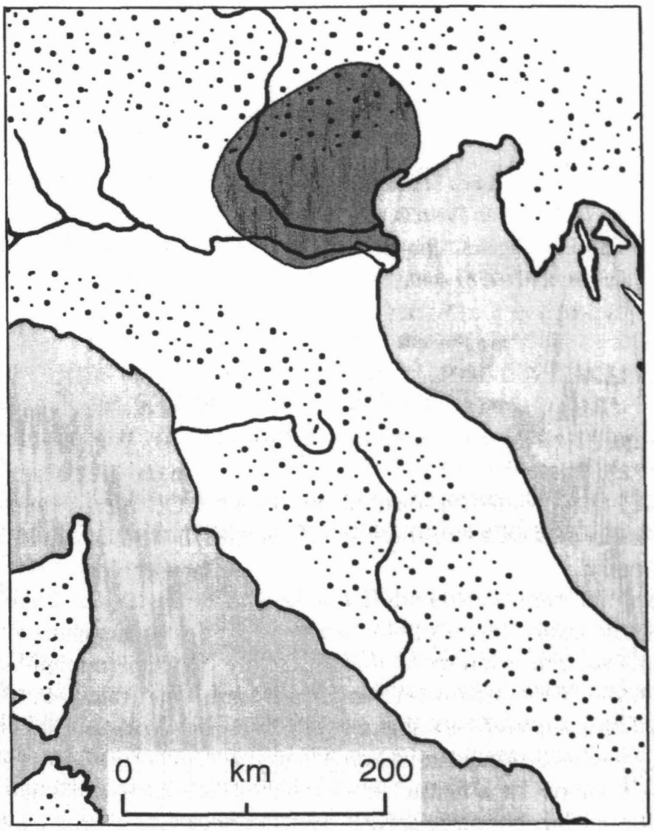
Venetic is an Indo-European language of northeast Italy (the Veneto). The language is attested among the archaeological remains of the later phases of the Este culture that ran from *c* 900 to 182 BC. The Venetic language is attested from about two-hundred short inscriptions (none longer than

ten words) that date from *c* 550 to 100 BC. The earliest were written in a North Etruscan alphabet while those from *c* 150 to 100 BC were written in the Roman alphabet. By the first century BC Venetic disappeared in the face of Roman (and Latin) power.

The Este culture included towns at Este (ancient Atestine), Padua, Verona and Vicenza. The inscriptions are found on stone pillars, tombs and especially on votive offerings, in particular bronze pins or nails found at the shrine of the goddess Reitia at Fondo Baratela which were placed there by women. Here there are known some twenty-four inscribed pins or nails dedicated to the goddess (they have also been explained as *styli* for inscribing wax tablets).

The Venetic language is clearly Indo-European and direct correspondences with Italic can be made, confirming the meaning of at least some words and indicating particular features of Venetic phonology, e.g., inscriptions in the earlier script employ *z* where in the Roman script the words begin with a *d*, cf. *zonasto* ~ *donasto*. Although there is a certain amount of uncertainty in how Venetic should be transcribed phonetically, the meaning of at least some of the words causes no great problem. For example, the pronoun *eχo* 'I' corresponds to Lat *ego* while Venetic *vhraterei* would render Lat *frātrī* 'to the brother'. Venetic *ke* has been seen to be phonologically cognate with either Lat *-que* 'and' or Grk *καί* 'and'; syntactically it seems to function like Lat *et* 'and' or the Grk *καί*, i.e., it unites the two nouns on either side of it rather than serves as an enclitic. The inscription *meχo zonasto vhuχiia vhouχontiiha śainśšei reitiiai* could be rendered in Latin as *me donavit Fugia F(o)ugontiaca *sanatrici* (an unattested feminine of *sanitrix*) *Reitiae* 'Fugia F(o)ugontiaca gave me to Reitia the healer'. Venetic *zonasto* 'gave' is explained as an s-aorist with a personal ending derived from the root aorist class (seen, for example, in Grk *ἔ-δο-το* 'he gave'). There are also examples of Venetic *zoto* 'he gave', without the *s*-particle. The name *vhuχiia* has been explained as equivalent to Av *baoxtar-* 'savior, liberator' and derived from **bheug(h)-* 'purify, free'. The paucity and brevity of Venetic inscriptions precludes Venetic playing any significant role in the reconstruction of the PIE lexicon although it does offer a number of examples of otherwise widespread cognate sets, e.g., Venetic *ekvon* 'horse' (< **$h_1$ek̑u̯o-m*), Venetic *teuta* 'people' (< **teutéh$_a$-*). There are also examples of words that have generated more discussion, e.g., Venetic *ekvopeθaris* has been translated as the personal name 'Equipetarius', as an occupational title such as 'charioteer' or 'groom' (with an underlying **$h_1$ek̑u̯os* 'horse', which is quite plausible as a number of its occurrences are associated with the depiction of a horse or chariot), or a priest who presided at the funeral.

The dialectal position of Venetic has been a source of considerable controversy. The hypothesis that it is closely related to Illyrian has not proven widely accepted nor is it likely to do so unless there is some really solid evidence of the nature of Illyrian other than place and personal names. Many regard Venetic as an Italic language, co-ordinate perhaps



Venetic Territory of the Veneti.

with Latino-Faliscan and Osco-Umbrian. Certain peculiarities, however, have suggested to some that it may be an independent Indo-European stock. The Venetic accusative of the first personal pronoun, *meχo*, establishes a paradigm *eχo/meχo* which is in obvious contrast with Lat *ego/me* and has been argued by some to be more reminiscent of Germanic, e.g., Goth *ik/mik*; however, these similarities have been generally attributed to independent creations in both stocks where the nominative singular influenced the accusative. Perhaps more striking is Venetic *selboisselboi* 'himself' which finds an Old High German parallel in *selboselbo*. But this single correspondence seems weak grounds to thrust Venetic out of the Italic and into the Germanic world although some would still hold to the view that Venetic perhaps demands a status separate from Italic.

The Este culture which reflects the archaeological background of the Venetic inscriptions derives from the Proto-Villanovan horizon that spanned the length of Italy at the end of the Bronze Age. Its own more distant connections would then lie north of the Alps in the central European urnfields.

See also Este Culture; Indo-European Languages; Italic Languages. [J.P.M.]

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VILLAGE

k̑éiu̯os ~ ***k̑iu̯ós*** 'belonging to the household' (hence > 'intimate, dear'). [*IEW* 539–540 (**k̑ei-u̯o-*); Wat 27–28 (**kei-*); Buck 7.122]. Lat *cīvis* 'citizen' (*i*-stem on the analogy of *hostis* 'host'), Osc *ceus* '(fellow) citizen', ON *hjōn* ~ *hjūn* 'one of the household; (pl.) married couple', *hȳski* 'household, family', OE *hīwen* ~ *hīwræden* ~ *hīwisc* 'household', *hīwan* (pl.) 'members of a household', *hīwcūþ* 'domestic, familiar', OHG *hīun* 'married couple, parents; family members', *hī(w)o* 'husband', *hī(w)a* 'wife', *hīwiski* 'family', Goth *heiwa-frauja* 'master of the household; host', Latv *sieva* 'wife', OInd *śéva-* 'intimate, dear', *śivá-* 'kind, friendly, auspicious, dear' (whence *Śiva-* 'Shiva'). Lurking behind these words is either a root noun **k̑éi-* or a *u*-stem **k̑eiu-/*k̑iu-* 'household, village as social unit' from **k̑ei-* 'lie', either from *'± those that sleep together' or, since **k̑ei-* + **h₁en* may mean 'depend on', from *'± collective dependants'. These words are widespread and old in PIE.

k̑óimos 'household, village'. [*IEW* 539–540; Wat 71 (**tkei-*); GI 155; Buck 7.122]. OIr *cáem* 'dear', MWels *cu* ~ *cuf* 'dear', ON *heimr* 'abode; world', *heima* 'home', OE *hām* 'home' (> NE *home*), *hǣman* 'have intercourse with, cohabit with, marry', OHG *heim* 'home', MHG *heimen* 'take home, marry', Goth *haims* 'village, country (i.e., not city)', OPrus (pl.) *seimīns* 'household servants', Lith *šeimà* 'family', Latv *sàime* 'family', OCS *sěmija* 'household servants', *sěmĭja* 'family', Grk κώμη (< **k̑ōimeh₂-*) 'village' (cf. κοιμάομαι 'sleep'). The Baltic family represented by OPrus *caymis* 'village', Lith *kiẽmas* '(court)yard, village, farm(stead)', *káimas* 'village, hamlet; country (i.e., not city)', *kaimýnas* 'neighbor' reflects a Proto-Baltic borrowing from Germanic (hence Proto-Baltic **k-* rather than **š-*) or at least some phonological influence of Germanic or some more western IE group). With the suffix **-ro-* we have Arm *sēr* 'devotion', *sirem* 'love'. A word of the west and center of the IE world.

tk̑itis (gen. ***tk̑itéis***) 'settlement'. [*IEW* 626 (**k̑þei-*); Wat 71 (**tkei-*); Buck 19.16]. Grk κτίσις 'settlement', Av *šiti-* 'settlement', OInd *kṣití-* 'settlement'. A word of the southeast of the IE world from **tk̑ei-* 'settle'. Other derivations of **tk̑ei-* include Myc *ko-to-na* 'parcel of land' and Arm *šēn* 'village'.

u̯ik̑s (gen. ***u̯ik̑ós***) '(social unit of) settlement, extended family group'. [*IEW* 1131 (**u̯eik̑-*); Wat 75 (**weik-*); GI 646 (**we/oik̑ʰ-*); Buck 19.16]. OCS *vĭsĭ* 'village', Grk τριχά(ϝ)ῖκες 'those divided into three tribes', Av *vīs-* 'manorhouse, court; village', OPers *viθ-* 'house, residence; royal family', Khot *bisā-* 'house', OInd *víś-* 'dwelling, tribe, clan'. Other derivatives exist, thus from **u̯eik̑es-*: Lat *vīlla* (< **u̯eik̑-s-leh₂-*) 'farm; house in the country', Umb *uocu-com* 'building', Goth *weihs* 'village', OInd *veśás-* 'house', TochB *ike* 'place, locality'; from **u̯óik̑os*: Lat *vīcus* 'village, quarter (of a city)', Grk (ϝ)οῖκος 'household', OInd *véśa-* 'house; bordello'. (Cf. Indo-Iranian **u̯oik̑ós* 'dweller, inhabitant' in Av *vaēsa-* 'servant', Khot *bīsa-* 'servant', OInd *veśá-* 'dweller, tenant, inhabitant, neighbor'.) This is the basic PIE word designating a settlement unit composed of a number of extended families which was later extended to the complex of buildings they occupied and, later still, to the socio-political unit. Its use as a socio-political designation is brought into sharp focus in the compounds of this word with **pótis* 'lord' and **pótnih₂-* 'lady': OPrus *waispattin* (acc.) 'woman of the house', Lith *viẽšpatis* ~ *viẽšpatis* 'lord, master, sovereign', (dial.) *viešpatni* 'wife', Alb *zot* (< **u̯īk̑eh₂-pót-*) 'master, lord; god', *zonjë* 'lady; married woman, wife', Av *vīspaiti-* 'lord, overlord of a clan', OInd *viśpáti-* 'lord of the house, chief of a settlement or of a tribe', *viśpátnī* 'lady; wife'. The difference in formations suggests that these words are independent creations in the stocks where they are attested or that they have undergone more or less radical rebuilding. The underlying verb probably appears in Indo-Iranian: Av *vīsaite* 'stands ready', Khot *bis-* 'enter', OInd *viśáti* 'settles down, enters, arrives', though some have seen this verb as a denominative formation from Proto-Indo-Iranian *viś-*. Lith *viešýti* 'be a guest' and Grk οἰκέω 'dwell' are definitely denominative verbs. An alternative theory proposed by O. Szemerényi suggests that it derives from **u̯eik̑-* 'go, march' and, therefore, it designated a social unit on the move, as in NE *gang*. The same lexical derivation, however, has led E. Polomé to suggest that the underlying semantics was 'enter' and that the word indicated the enclosure that separated the clan's living space from the outside world, i.e., the defensive area controlled by the family or clan unit.

See also **FAMILY**; **MASTER, MISTRESS**. [A.D.V., D.Q.A.]

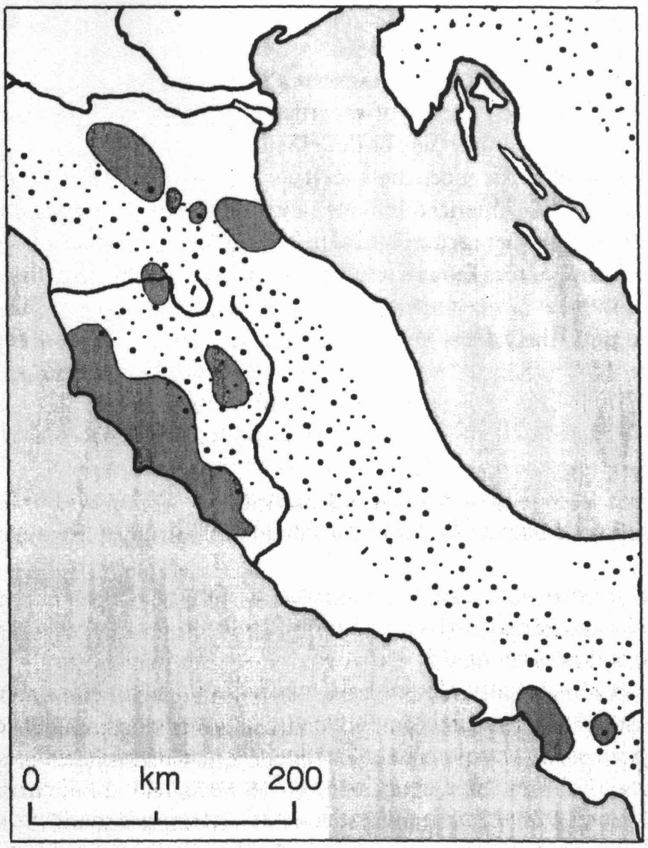
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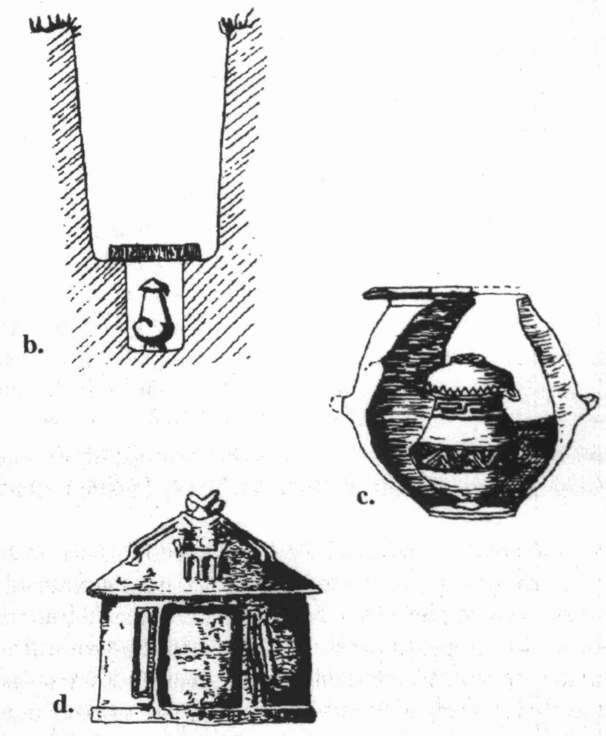
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VILLANOVAN CULTURE

During the late Bronze Age (c 1100–900 BC) most of Italy was spanned by the Villanovan culture. This culture is documented primarily by cremation cemeteries with urns and a wide variety of metallic goods such as razors, fibulae (brooches), pins, swords, buckets, helmets and armor, all of which can be related to the central European urnfields. Traditionally, the advent of the Villanovan culture, the Pianello-Timmari horizon, was ascribed to central European warriors who crossed the Alpine passes and swept through Italy



Villanovan a. Distribution of the major Villanovan cemeteries.



Villanovan b. Villanovan urn burial in a *pozzetto*, a small pit below a pit; c. Urn burial in a *dolio*, jar; d. House urn.

spreading both their culture and IE languages. Such models are now regarded as considerably overstated and the spread of Urnfield characteristics are often derived from other methods of diffusion. As a vehicle for the spread of the IE languages in Italy, the Villanovan culture always faced one serious obstacle in that it underlay not only the territories of IE-speaking groups but also that of the Etruscans who are generally recognized as non-IE speakers. On the other hand, as an Italian expression of the general Urnfield phenomenon, it does accommodate the hypothesis that the ancestors of the Celts and Italic languages were the same and derived from central Europe.

See also Golasecca Culture; Italic Languages; Urnfield Culture; Venetic Language. [J.P.M.]

VINE *see* WINE

VISIBLE

h$_4$ēu̯is 'obvious'. [*IEW* 78 (*āu̯is-)]. OCS *(j)avě* 'obvious', Av *āviš* 'obviously'. From **h$_4$eu-* 'perceive'. A late word of the center of the PIE world.

?*derk̂etos 'visible'. [*IEW* 213 (**derk̂-*); Wat 12 (**derk-*); BK 180 (**c'ar-/*c'ər-*)]. Grk *-δέρκετος* 'visible', OInd *darśatá-* 'visible'. From **derk̂-* 'see'. Perhaps inherited, perhaps independent creations in the two stocks.

See also Perceive; See. [D.Q.A.]

VOICE

****u̯ók^{w}s*** (gen. ****u̯ók^{w}os***) 'voice'. [*IEW* 1135–1136 (**u̯ōk$^{u̯}$-s*); Wat 75 (**wōk^{w}-*); GI 127 (**wek^{ho}-*)]. Lat *vōx* 'voice', Grk (acc.) *ὄπα* 'voice', Av *vāxš* 'voice', OInd *vāk* 'voice', TochA *wak* 'voice', TochB *wek* 'voice'. From **u̯ek^{w}-* 'speak'. Widespread and old in IE.

See also Noise; Sound; Speak. [D.Q.A.]

VOMIT *see* SPEW

VULTURE

There is no standard IE term for the vulture in the IE languages although the vulture was certainly well known to the speakers of the proto-language no matter where they were originally situated. Arm uses *angł* 'vulture', Grk *γύψ* 'vulture', and the Indian a rather wide range of terms, of which *bhāsa-* is the best known and possibly related to Grk *φήνη* 'lammergeir or bearded vulture' [< **bhēsneh$_a$-*; *IEW* 111 (**bhāso-* ~ **bhēso-*)]. Another possible correspondence derives from

$*g^{w}\text{ḷ}tur$-. [*IEW* 482 ($*g^{u}\text{ḷ}tur(os)$)]: Lat *voltur* 'vulture', Grk *βλοσυρ-* 'shaggy', as in Homer *βλοσυρ-ῶπις* 'vulture-eyed, grim-looking'.

Though vulture terminology varies greatly from language to language, both Greek and Old Indic share a common mythology concerning their parenting habits. The five major Indian vultures are said to be all derived from one father through separate mothers while a Grk *γύψ* is said to have female species only, that reproduce at will. Vultures, of which there are five major species in Europe and western Asia, are largely ubiquitous, distributed from Ireland to India, and beyond.

Iconographically, the vulture is dramatically represented on the walls of the shrines at Çatal Hüyük. In the so-called "Vulture Shrine", six headless corpses are seen as various prey to seven vultures which has seen a variety of interpretations, including the concept of excarnation, i.e., the exposure of bodies so that they may be defleshed by birds, a practice later reflected in the mortuary practices of the Zoroastrians (and some North American Indians). Deposits of the bones of vultures and other carrion birds are known from the Palaeolithic onwards across Eurasia and in the absence of specific mythic motifs not to say a reconstructible PIE word, it is impossible to press the vulture any further into Indo-European studies.

See also **Birds**. [J.A.C.G.]

·W·

WADE

u̯adh- 'wade'. [*IEW* 1109 (**u̯ādh-*); Wat 73 (**wadh-*); Buck 10.47]. Lat *vādō* (with new long grade) 'ford (a river)', ON *vaða* 'go, push forward, wade (through)'; OE *wadan* 'wade' (> NE *wade*), OHG *watan* 'wade'. Cf. the derivative: **u̯adhom* 'ford': Lat *vadum* 'ford', ON *vað* 'water', OE *wæd* 'water', *gewæd* 'ford', OHG *wat* 'ford'. A late western dialectal term in IE.

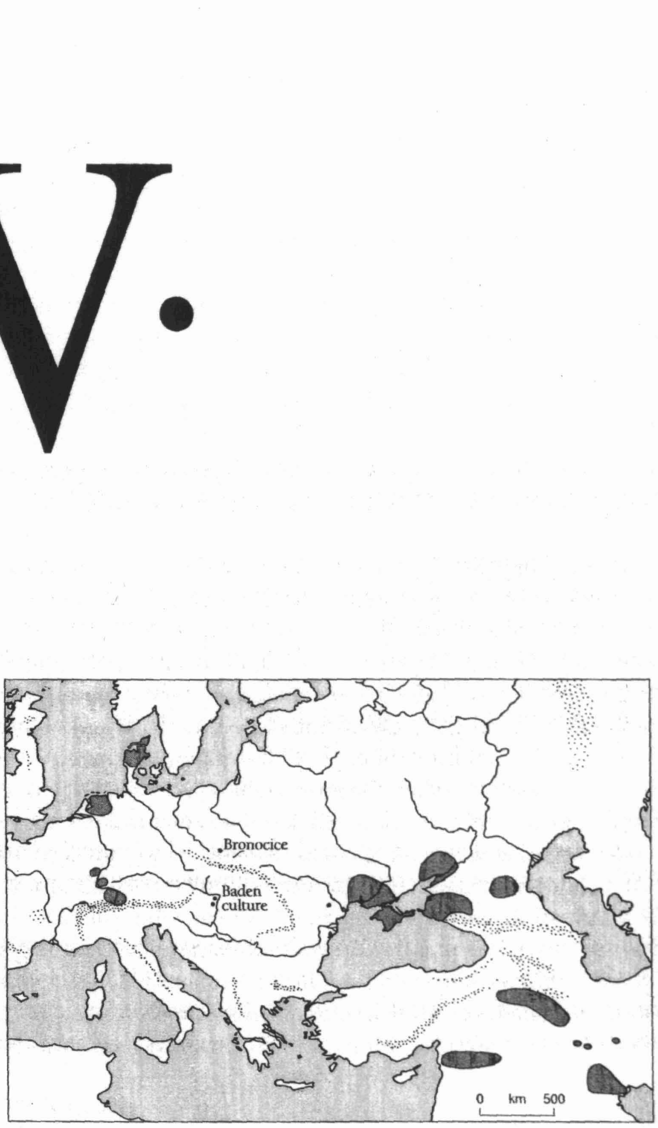
geh$_x$ĝh- '± enter water, wade'. Slov *gáziti* 'wade', SC *gȁziti* 'step, wade', OInd *gā́hate* 'penetrate, enter (water), wade'. Though only attested in South Slavic and Indic, perhaps a late word of the eastern part of the IE world.

See also DIVE; FLOAT; GO; SWIM. [D.Q.A.]

WAGON

u̯eĝhnos 'wagon'. [*IEW* 1118–1120 (**u̯eĝh-no-*); Wat 74 (**wegh-*); GI 627 (**woĝ^{h}o-*); Buck 10.75; BK 301 (**wag^y-/ *wəg^y-*)]. OIr *fēn* 'wagon', Wels *gwain* 'wagon', TochA *wkäṃ* 'way, manner', TochB *yakne* 'way, manner' (and similarly **u̯oĝhnos* in ON *vagn* 'wagon', OE *wægn* 'wagon' [> NE *wain*], MDutch *wāghen* 'wagon' [borrowed > NE *wagon* > Wels *gwagen*], OHG *wagan* 'wagon'). This word is derived from **u̯eĝh-* 'ride' and the pattern of its distribution suggests PIE status. Related constructions include **u̯éĝhitlom* 'vehicle': Lat *vehiculum* 'vehicle', OInd *vahítram* 'vehicle'; and **u̯óĝhos* 'wagon': OCS *vozŭ* 'wagon', Myc *wo-ka* 'chariot', Grk (ϝ)όχος 'chariot'.

?*h$_2$em-h̥$_a$k̂s-ih$_a$ 'wagon-chassis'. [Buck 10.75]. Grk ἄμαξα (Attic ἅμαξα with secondary *h-*) '(framework or chassis of) a four-wheeled wagon; Ursa Major', TochB *amäkṣ-pänte* '± wagon-master' (where *-pänte* reflects a **-pn̥th$_2$-ó-* 'one pertaining to the way', an exocentric thematic derivative of **póntōh$_2$s* 'way'). The evidence for this word rests on these two stocks unless we include Khot *maś-* in *maśpa-* 'road' (if < *'± wagon-place'). If this is a PIE word (and borrowing between Greek and Tocharian seems ruled out), then we have an old compound **h$_2$em-* 'hold on to' and **h$_a$ek̂s-* 'axle', a 'hold-axle' if you will.



Wagons I a. Main distribution of the earliest archaeological evidence for wheeled vehicles (fourth-early third millennia BC).

k̂r̥sos 'wagon'. [*IEW* 583–584 (**kr̥so-s*); Wat 30 (*kers-*); Buck 10.75]. OIr *carr* 'wagon', MWels *carr* 'wagon' (< Celt **k̂r̥sos*), Lat *currus* 'chariot, wagon'. Lat *carrus* 'wagon for freight' is a loan from Celtic (a variant *carrum* provides the origin of NE *car*). A word of the far west of the IE world unless one also includes here Grk (Hesychius) σάρσαι 'wagons' which, if related, would have been borrowed from a satəm language. Derived from **k̂ers-* 'run'.

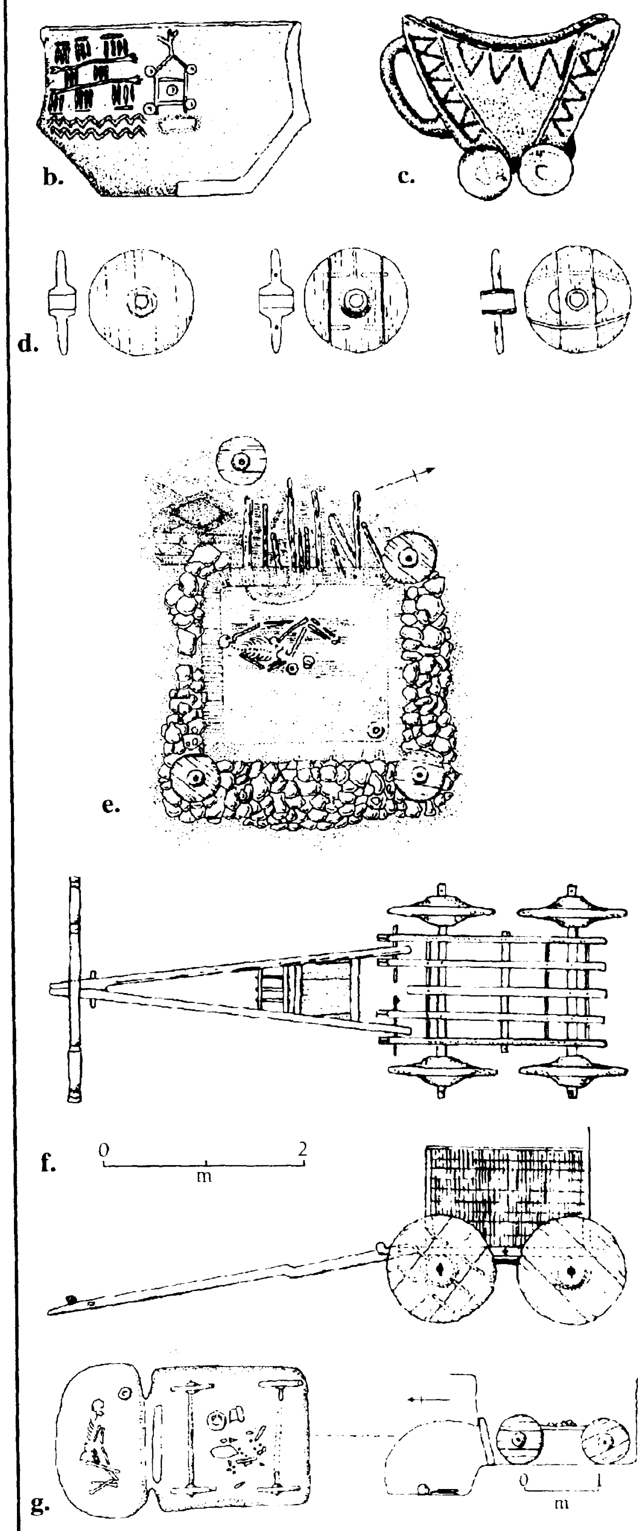
Archaeological Evidence

Wheeled vehicles are clearly assigned PIE status not only through the words for the vehicles themselves, but also because of reconstructible words for 'axle', '(wagon) pole', 'nave', and 'wheel'. These vehicles are commonly ascribed to the latest period of PIE "unity" before sharp divisions developed among the different IE dialects, languages and stocks. As the earliest wheeled vehicles in the world appear in the fourth millennium BC, it is presumed that the major divisions between the IE stocks did not occur until this period or sometime after it.

The earliest evidence for wheeled vehicles consists of both artistic representations of wagons or the actual remains of vehicles, the latter of which are generally recovered from graves. The place of origin for the wheeled vehicle is uncertain and candidates range all the way from Mesopotamia in the southeast, northwards through the Caucasus, then onto the south Russian and Ukrainian steppe, and finally into central Europe. In all these regions there is evidence for the early development of wheeled vehicles by the fourth millennium BC. It is generally presumed that vehicles may have been invented in only one of these locations and diffused swiftly across a broad region of Eurasia; however, some have argued for multiple points of origin such as the Near East and west-central Europe. The reasons for this latter argument is that fixed axles are found from Mesopotamia to central Europe but evidence of rotating axles, a different principle of locomotion, is found in the western Alpine region during the late Neolithic and Bronze Age and further west to the Atlantic. Such distinctions do not, however, affect the dating of the earliest wagons, irrespective of point of origin, to the fourth millennium.

The form of the earliest vehicles is generally ascribed to two basic types: the cart, a single-axle vehicle with two wheels, and the wagon, a double-axle vehicle with four wheels. The early Mesopotamian wheeled vehicles are known purely through pictographs which are not particularly informative. They reveal what appear to be covered sledges resting on either rollers or, more likely, four disc wheels. These are dated to the late fourth millennium BC. Actual finds of wheeled vehicles from the Caucasus (Georgia and Armenia) are more recent (third and mainly second millennium BC) and less numerous than the over 250 wagon burials now known from the Ukrainian and Russian steppe in the late fourth to early second millennium BC. The social context of the burials has been debated: some argue that they represent high-status objects placed with emerging aristocracies (as would later be the case in the burials of Scythian royalty in the Iron Age of the same region) while others have pointed out that other than the wagons themselves, there is nothing to distinguish these graves from contemporary burials of the Yamna, Catacomb and Novotitorovka cultures.

The association of vehicles with burials does suggests that the ritual of conveying the dead to the cemetery by way of a wheeled vehicle extends back to the fourth millennium BC.



Wagons I b. Vehicle depicted on TRB pot from Bronocice, Poland; c. Wagon-cup model from Szigetszenmárton, Hungary; d. Construction of tripartite disc wheels; e. Yamna burial with wagon; f. Wagon from Armenia; g. Catacomb burial with wagon.

It is well attested in the Iron Age burials of the steppe and reported by Herodotus. The conveyance of the deceased to the cemetery is a well known theme of early Greek art and is also seen depicted in Etruscan art. Wheeled vehicle burials are seen widely over Europe, from the Celts in the west to presumably (Indo-?)Iranians east of the Urals, e.g., at Sintashta. This practice is also seen in clearly non-IE contexts such as Mesopotamia (the royal tombs of Ur) and China (the royal cemetery at Anyang).

The steppe burials offer good evidence for the appearance of the wagons of the late fourth and early third millennium BC. The wagons comprised a rectangular base of wood planks and removable sides which might be covered with wickerwork. The floor of the wagon might have a covering of mats. The frame rested on two axles (all complete steppe vehicle burials contain four-wheeled wagons) on which were mounted tripartite disc wheels. Axles might measure about two meters long. The draught-pole, which could measure some two to three meters long, might be Y-shaped and where there is evidence of the yoke, it indicates a paired team. Given the weight of the wagons (a reconstructed wagon with disc wheels comes to over 250 kg), the inefficient harnessing techniques then available, and the evidence of paired animal burials, the wagons were drawn by oxen rather than horses.

The earliest evidence for wheeled vehicles in central Europe tends to be representational rather than actual. It consists of pictographs inscribed on the sides of megalithic tombs which have been interpreted as paired oxen, some of which appear to be pulling a primitive two-wheeled wagon. Better evidence derives from the TRB culture where a pot from the Polish site of Bronocice depicts a series of four-wheeled wagons with a Y-shaped pole which terminates in a V-shaped yoke. The ox-team that would have pulled such a wagon is not shown. All of this evidence can be comfortably set to the fourth millennium BC. The clearest evidence from central Europe derives from the Baden culture of Hungary where two cemeteries have yielded each a clay vessel in the form of a wagon. Clay discs, which are frequently interpreted as model wheels, are also known from the Balkans from the late fifth millennium BC onwards (and further afield); they have been alternatively interpreted as spindle-whorls for weaving.

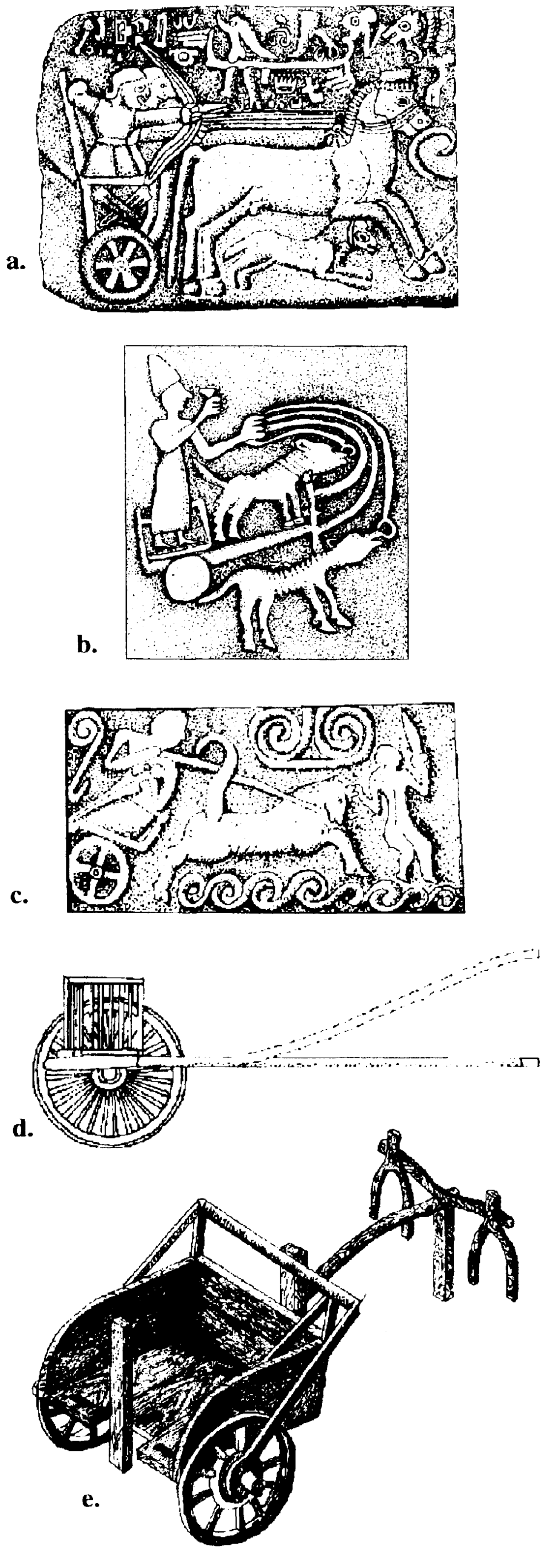
Regarding the wagon, the best that can be said is that there is solid evidence for its existence from central Europe to Mesopotamia by the fourth millennium BC and it may be possible to push the dates for its invention back to the fifth millennium although absolutely compelling evidence for such a date has not yet been discovered. As for its point of origin, there is no decisive location where it can be shown to have developed earliest. In terms of solutions to the IE homeland problem, the wheeled vehicle is a better chronological than spatial marker. Wheeled vehicles, for example, occur in the TRB culture which supporters of an IE origin on the steppe (the "Kurgan solution") would normally regard as an indigenous culture of central and northern Europe which was not obviously affected by expansions from the steppelands although contacts between the two regions might well have been possible. The context of the invention of the wagon has been variously assigned to settled agriculturalists of central Europe or to more mobile pastoralists of the steppe regions.

The Chariot and the Indo-Europeans

There has long been a close association between the light horse-drawn chariot and the earliest Indo-Europeans and it is the chariot that one encounters as the classic vehicle of warfare among the early Indo-Aryans of Vedic India, the Homeric and Mycenaean Greeks, and the Celts of western Europe. In many of these languages the inherited wheeled vehicle terminology is also found to be specifically assigned to the chariot rather than the wagon. This evidence has led to the long held presumption that the chariot was employed by the earliest Indo-Europeans in their expansions (from whatever homeland they might be assigned). Further support for the ascription of the chariot to the PIE period is the widespread motif of the sun being pulled across the sky by a team of horses and such striking parallels as the selection of the horse that excelled on the right side of the chariot for the victims of the horse sacrifice in both ancient India and in Rome. Two arguments, however, have strongly militated against assigning 'chariot' to PIE antiquity.

The chariot is commonly described as a light two-wheeled vehicle employed for the purposes of warfare or ceremony. The implications of "light" are the most important since within the context of the IE world, this implies a vehicle drawn by the horse rather than oxen, and a spoked-wheel rather than a disc wheel (battle-wagons have been drawn by other forms of equines in the Near East but not within the contexts of IE speakers). On lexical grounds, there is no convincing evidence for the assignment of the spoked-wheel to PIE; the earliest terms for 'spoke' in the various IE stocks are at best metaphoric extensions of other words, e.g., Grk ***κνήμη*** 'lower leg' but Grk (Homeric) ***ὀκτάκνημος*** 'eight-spoked (wheel)'. In fact, other than broadly related forms found in other IE languages (Myc *wo-ka* 'chariot', Grk *(ϝ)όχος* 'chariot', OInd *vahítram* 'vehicle'; Grk ***κύκλος*** 'wheel; circle, cycle', OInd *cakrá-* 'wheel; sun disc') there is no close connection between the Greek and Old Indic chariot terms although both stocks attest chariotry from the second millennium BC.

The second problem with ascribing chariotry to Proto-Indo-European is the chronology of light-weight vehicles. Generally, the archaeological presumption is that some form of spoked wheel would be a prerequisite for the invention of the chariot. Occasionally there is evidence proposed that the chariot may have predated the spoked wheel. A two-wheeled vehicle with wheels some 60 cm in diameter was recovered from a Catacomb burial at Maryevka in the Ukraine, presumably of the third but possibly second millennium BC. Even if accepted as a horse-drawn cart, this would not materially advance the age of the chariot which is well attested in the Sintashta culture south-east of the Urals. Dating from c 2100 to 1700 BC, this culture provides abundant evidence



Wagons II Earliest spoked-wheeled vehicles: a. Lion hunting from a chariot from the Hittite site of Malatya; b. Cylinder seal from Kultepe; c. Chariot scene from Mycenae; d. Chariot from Lchashen, Armenia; e. Chariot from Sintashta.

for chariots. The vehicles were small, with a gauge of 1.1 to 1.2 m, about the size suitable for a single driver and similar to those of the earlier steppe wagons. The wheels have eight to twelve spokes. The vehicles, found in burials, are unequivocally associated with horses and were drawn by a paired team. Roughly contemporary are the earliest chariots in Anatolia which are depicted on seals dating to about 2000–1900 BC. The wheels shown have four spokes and the vehicles are pulled by two equids, presumably horses, which appear in the Near East by *c* 2500 BC. These vehicles replace the earlier and much heavier "battle-cars" seen in Sumerian art which were pulled by asses or onagers interbred with another equid. The differences between the steppe chariots and those found in Anatolia and elsewhere in the Near East have led some to suggest independent origins for the two.

The spread of spoked-wheeled vehicles can be found widely in the period *c* 2000–1500 BC by which time they are attested among the Hittites, Mycenaeans, and presumably Indo-Aryans (at least we know that it was from Indo-Aryans that the Mitanni of northern Syria gained their vocabulary for horse-training which they in turn passed to the Hittites). By 1500 BC there is also clear evidence for spoked-wheeled vehicles in central and eastern Europe. They are depicted on a vessel from the Srubna (Timber-grave) culture of the Volga region and somewhat later, though still well within the second millennium BC, from a similarly decorated pot from Hungary. Clay models of what are presumed to be spoked-wheels are also encountered in the Carpathian basin *c* 1500 BC. Wherever we find evidence it does not long antedate and generally post-dates 2000 BC by which time one might have expected the development of the independent IE stocks.

See also **Axle**; **Hold**; **Shaft**; **Wheel**; **Yoke**. [D.Q.A., J.P.M.]

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WALL

***díĝhs** (gen. ***diĝhós**) 'wall, fortification'. [*IEW* 244–245 (**dheiĝh-*); Wat 13 (**dheigh-*); GI 612 (**d^{h}eiĝ^h-*); Buck 10.45]. Phryg **δίζος ~ δίζα** (< **díĝh(i̯)eh$_a$*) 'fortification', OPers *didā-* (< **dizā*) 'wall, townwall, fortification', NPers *diz* 'fortification', OInd *saṃ-díh-* 'mound, heap, wall'. A word of the eastern IE world. Other formations with a similar meaning from **deiĝh-* 'work with clay, smear, build up' include: Osc *feího-* (< **déiĝho-*) 'wall', Grk *τεῖχος* (< **déiĝhes-*) 'wall', Grk *τοῖχος* (< **dóiĝho-*) 'wall', Av *uz-daēza-* 'pile, wall', *pairi-daēza-* 'enclosure' (borrowed > Grk *παράδεισος* 'garden, paradise' borrowed > NE *paradise*), OInd *dehī* 'wall, bank', TochA *tseke* (< **doiĝheh$_a$-h$_1$en-*) 'figurine'. In northwestern

IE derivatives of *deiĝh- refer to 'dough', thus ON *deigr* 'dough', OE *dāg* 'dough' (> NE *dough*), OHG *teig* 'dough', Goth *daigs* 'dough' (Gmc < *dóiĝhos* 'what is kneaded'), OCS *děza* 'baker's trough', Rus *dezá* 'baker's trough' (< *dhoiĝhéh$_a$-* 'instrument for kneading').

The substance from which the walls were made, *dhoiĝh-o-* (cf. perhaps Alb *dhe* 'earth'), came to be applied both to the finished product, e.g., Grk τοῖχος 'wall', Av *uz-daēza-* 'wall', and clay-like substances, e.g., Germanic 'dough'. The semantic context of most of the cognates cited suggests that *dīĝhs* indicated the enclosing wall of a settlement or fortification, i.e., an earthen or clay bank, rather than the wall of a house. In Homer, for example, τεῖχος is applied to walls of defense such as the city-walls of Troy and only the *o*-grade τοῖχος is applied to the walls of a house but as they also indicate the side of a ship, it is clear that this term is already distant from any etymological association with clay.

serk- 'to construct or repair a wall'. [*IEW* 912 (*serk-*); Wat 58 (*serk-*)]. Lat *sarciō* 'repair, amend, make amends', Umb *sarsite* (< *sarcītē*) '?repair', Alb *gjarkëz* 'peritoneum' (< *'that which surrounds'), Grk ἕρκος 'enclosure, hedge, fence, (courtyard) wall; courtyard; net, snare; defense, bulwark', ὀρκάνη ~ ἑρκάνη 'enclosure, fence; trap, pitfall', Hit *sar-nin-k-* 'compensate', TochB *serke* 'cycle, circle' (< *'that which encloses'). The underlying concept here may well involve that of a 'circle', i.e., enclosure, rather than any specific reference to repairing an enclosure.

The concept of repairing through the use of wickerwork is evidenced by the Lat derivative *sarcina* 'bundle' and by the Latin idiom *sar(c)tus tectus* 'in good repair' (< *'(well) enclosed and covered'). The geographic spread of the etymon suggests PIE antiquity.

See also CIRCLE; FENCE; FORT; HOUSE; VILLAGE. [A.D.V.]

WANDER

h$_a$el- 'wander'. [*IEW* 27–28 (*āl-*); Wat 2 (*al-*)]. Lat *ambulō* 'take a walk', Latv *aluôt(iês)* 'go astray', Grk ἀλέομαι ~ ἀλαίνω 'wander about', ἠλάσκω ~ ἠλαίνω 'go astray', ἀλεύομαι 'avoid, shun', ἀλύσκω 'escape', ἀλύω 'be beside oneself', TochAB *āl-* 'keep off'. It may be that we have two verbs here: (1) 'wander' which appears in Latin, Latvian, and Greek, and (2) 'avoid' that appears in Greek and Tocharian. If all these words belong together we have evidence for at least a late PIE verb. If there are two separate verbs the evidence suggests at best two dialectally restricted IE verbs.

See also GO; COME. [D.Q.A.]

WANT

u̯ek̑- 'wish, want' (pres. ***u̯ék̑ti***). [*IEW* 1135 (*u̯ek̑-*)]. Grk ἑκών 'willingly', Hit *wēkmi* 'wish', Av *vasəmī* 'wish', OInd *váśmi* 'wish'. Though only sparsely attested, the presence of an Anatolian cognate seems to assure PIE status.

u̯el- 'wish, want'. [*IEW* 1137 (*u̯el-*); Wat 75 (*wel-*)]. MWels *gwell* (< *u̯el-no-*) 'better', Lat *volō* 'want', ON *vilja* 'choose', OHG *wellen* 'want', Goth *wiljan* 'want', Lith *pa-vélmi* 'wish', OCS *veljǫ* 'wish', Arm *gel* (< *u̯el-no-*) 'beauty', Av *var-* 'choose, wish', OInd *vr̥ṇīté* 'chooses', *avr̥ta-* 'chosen'. Widespread and clearly old in IE.

h$_a$eis- 'wish for, seek out'. [*IEW* 16 (*ais-*); Wat 1 (*ais-*); cf. GI 96–97 (*eis-*)]. Lat *aeruscāre* 'ask', OE *ǣsce* 'examination', *ācsian* ~ *āscian* 'ask' (> NE *ask*), OHG *eisca* 'furtherance', *eiscōn* 'ask', Lith *íeškau* 'seek', Latv *iẽskât* 'search for lice', Arm *ayc'* (< *h$_a$eis-sk̑eh$_a$-*) 'visit', Av *isaiti* (< *h$_a$is-sk̑e/o-*) 'seeks, wishes', *išaiti* 'wishes', OInd *éṣati* 'seeks', *icchā́ti* (< *h$_a$is-sk̑e/o-*) 'seeks, wishes', *icchā́* 'wish'. Without the *-s- we have Palaic *ila-* '± passion', *ilaliya-* 'desire', Hit *ila-* '± passion'. Widespread and old in IE.

g^{w}hel- 'wish, want'. [*IEW* 489 (*g^{u}el-*); GI 151 (*g^{ho}el-*)]. OCS *želěti* 'wish', Grk θέλω 'wish'. A word restricted to the center of the IE world.

See also DESIRE; PRAY. [D.Q.A.].

WARFARE

Unless one can specify the earliest location of the Indo-Europeans it is impossible to discuss specifically the nature of their warfare. Nevertheless, certain general observations may be made which may be taken in conjunction with other discussions pertaining to the social organization of war-bands, leadership, warriors in IE literature, IE deities concerned with war, and terms for weaponry.

Warfare of some sort would appear to be a universal in human society although the frequency of its occurrence might vary considerably over region, people or time. It most certainly existed in pre-IE times such as the Mesolithic when hunter-gatherers were distributed across Eurasia after the end of the Ice Age. Presumably organized violence would seem to have appeared particularly where there existed stable subsistence resources. The control of such territories would stimulate competition and require maintenance and protection. Hence, evidence for trauma associated with violent death through warfare can be found in Mesolithic cemeteries both in the Baltic region and along the middle course of the Dnieper River in the Ukraine. In both cases there were very rich but localized marine or riverine resources that may have stimulated competition that led to violent engagements. The weapons producing the trauma are generally arrows and spears.

During the Neolithic period, the earliest period to which we might attribute the economy of Proto-Indo-European, there is intermittent evidence of warfare, trauma, and defensive architecture across much of Eurasia. Analysis of a mass burial of men, women and children in a pit of the Linear Ware culture indicates that the polished stone axes employed in that society were not only used for cutting down trees. Neolithic enclosures in southern Britain show clear evidence for attacks and burning by opponents armed with bows and arrows. The presence of enclosures is widespread over much of Europe and although one of their functions may have been to mark out sacred precincts or areas of a settlement, it would be difficult, especially given the evidence from Britain, to presume that they did not also have a defensive function and that

warfare was a common enough occurrence in Neolithic Europe. In general, one of the features that accompanies the adoption of a settled way of life through agriculture is a sense of territoriality and fixed defensible resources, and hence a correlation between agriculture and warfare has long been observed. It should be emphasized that land is not the only reason for raids and warfare and there is abundant evidence for other causes, e.g., security, prestige, obtaining women. The growing social complexity of Eurasia through the Neolithic suggests that both material wealth and competition were probably becoming increasingly important and could have stimulated armed aggression. For this reason the stark contrast between an essentially "peaceful" European Neolithic, the "Old Europe" of Marija Gimbutas, and the intrinsically aggressive populations from the Pontic steppe is not only difficult to sustain but inherently unlikely. Warfare did not begin in Europe because of the introduction of the speakers of IE languages; it had preceded it no matter where one locates the IE homeland.

The reconstructed vocabulary of PIE suggests that at least by late IE there were warriors grouped in some sort of operational unit, e.g., *ko̯rios 'army, war-band', *leh$_2$u̯ós 'people under arms', *teutéh$_a$- 'people (under arms?)', with (military) leaders, e.g., *h$_a$eĝós 'leader', *kori̯onos 'leader', *u̯nátks 'leader, lord', *h$_3$rēĝs 'king'. The frequent application of 'wolf' to warrior behavior and evidence for berserker-like activity, sometimes induced by a stimulant, is also widespread in IE. From the lexicon of material culture we find that early Indo-Europeans had at their disposal certain implements that may have served in war as well as the hunt, e.g., knife (*u̯eben-), dagger (*h$_{2/3}$n̥sis), spear, (*g^{w}éru, *h$_a$eik̂smo/eh$_a$-, *kúh$_x$los, *ĝhai-só-s-), ax (*h$_4$edhés), bow and arrow (*g^w(i)i̯ḗh$_a$, *h$_1$isus, *h$_a$éru̯os). Further evidence for warfare is suggested by the presence of a fortified enclosure which may be found in either widespread or regionally confined sets of cognates (*pelh$_x$-, *bherĝh-, *dhūnos, *u̯ri-). Finally, there are verbal reconstructions such as *seĝh- 'hold fast, conquer' and *seru 'booty, spoils of a raid' whose semantic sphere is primarily related to military activities or at least the exploitation of physical force.

The picture gained from lexical-cultural reconstruction pertaining to the technology of warfare is vague enough to permit one to situate the earliest Indo-Europeans in most areas of Eurasia during the Neolithic. Every weapon indicated in the PIE vocabulary, although manufactured from metal (bronze or iron) by the time of its earliest attested lexical occurrence, could be ascribed a Neolithic predecessor made from flint, chert, obsidian or some other stone. Moreover, the age sets and/or war-bands postulated by some for the Proto-Indo-Europeans find close ethnographic parallels among tribes in Africa and North America whose own social organization need not be much more complex than that which we would expect for many later Neolithic populations. It is also in the later Neolithic and early Bronze Age that we find the regular ascription of weapons in male graves which may suggest either the existence of specialized warrior associations or, at least, the recognition of warfare as one of the appropriate social roles of males in society.

As to the nature of IE warfare, other than the relatively banal conclusions that one can draw from the IE vocabulary, e.g., raids for booty, livestock, very little else can be determined. What is known from many peoples of the world on a social level similar to that which we ascribe to the earliest Indo-Europeans is that armed hostility may be both ritualized and graded according to increasing levels of violence and destruction (cf. early Irish literature which distinguishes between 'raids' and 'routs'). This may involve unarmed defiance through display (chest-pounding, insults, etc.), duelling with long-distance weapons which minimize the opportunities to inflict serious injury, to hand-to-hand combat between individuals, and then full massed battles. All of these variations of the rules of engagement, however, seem so far to be unrecoverable from PIE antiquity.

See also AGE SET; ARMY; SOCIAL ORGANIZATION; WAR GOD; WARRIORS. [J.P.M.]

Further Reading

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WAR GOD

??*māu̯ort- 'god of war'. [Wat 39 (*Mawort-*); Del 74]. OLat *Māvors* (god of war), Lat *Mārs* (god of war), OInd (pl.) *Marutás* 'wind gods'.

The concept of a PIE War god results from the projection of the Latin Mārs into Indo-European where his name is compared with that of Indra's companions, the Maruts, of Old Indic mythology. To make the etymological link more plausible, one must consider OLat *Māvors*, but the name of the Italic god is *Māmers* in Oscan, which implies dissimilation ($*m - m > m - v$) in *Māvors*. Further difficulties arise when one considers the reduplicative form *Marmar* in the *Carmen Arvale* and the Etruscan *Marmarce*. Recent research tends to give the priority to OLat *Māvors* (claiming assimilation in Osc *Māmers* and contraction in Lat *Mārs*). The name looks like a compound of which the second element would be *u̯ert- 'turn' (Lat *vertere*) and the first perhaps *magh(e)s- (cf. Grk μάχομαι 'fight' < PIE *mh$_a$éĝh-), with an original meaning 'he who turns the combat'. Still, the equation *Mārs:Maruts*, attractive as it may be if the basic function of *Mārs* is war, is usually rejected where Mārs's agrarian connotations rather suggest a rural deity of the peasant-soldier. To be sure, the Maruts are the companions of the Vedic War god and are associated with the storm wind (*Vāyu*, the storm-wind, is also a major War god), but they rather appear as the celestial equivalents of the *márya-* 'youth, young warrior' which has rightly been compared with the ancient Middle Eastern *ma-ri-ia-an-nu*, a group of young charioteers in Mitanni, and with members of the military *Männerbund* (OPers *marīka* [< Proto-Indo-Iran *mariyaka-] 'member of a retinue'). The term would be semantically comparable to other youth's terms applied to

a military context, e.g., OHG *kneht*, NE *knight*, NHG *knabe* versus *knappe* 'page, esquire', and may be related to Grk *μεῖραξ* 'girl, boy', Lat *marītus* 'married', Wels *morwyn* 'girl', etc. < IE **mer̥ios* 'youth'. In view of all this, the reconstruction of an IE War god **māu̯ort-* is hardly justified on linguistic grounds.

See also WARRIORS. [E.C.P.]

WARM *see* HEAT

WAR OF THE FOUNDATION

Within the mythological system reconstructed for PIE, the "War of the Foundation", also known as the "War of the Functions" or "War of the Divine Classes", refers to a battle fought between the representatives of the first two functions (the judicial-religious and military) and the third (procreative, fertility) in which the third function is (forcibly) incorporated into the whole of society. Its primary reflection is held to occur in Norse mythology and Roman pseudo-history but traces of it are found in a number of other IE traditions.

In Norse mythology, primarily in the *Prose Edda*, there is related the conflict between the Æsir and the Vanir. The Æsir gods are led by Ōðinn and Þōrr (the representatives of the first and second functions respectively) while the Vanir are led by Freyr, a patron of fecundity, and other gods associated with fertility (Freyja, the sister of Freyr, and Njörðr). Before the war the Vanir attempt to corrupt the Æsir by sending to them Gullveig 'gold-frenzy' but the Æsir burn her. The Æsir attack the Vanir initiating the first war in the world which promised to be inconclusive as each side ravaged the lands of the other to no ultimate advantage. The participants decide to end the conflict themselves and hostages are exchanged with the three principal Vanir (Njörðr, Freyr and Freyja) coming to live with the Æsir. The Vanir are thus properly incorporated into the rest of divine society. In one version, the pact of peace is cemented by both parties spitting into a crock which was subsequently used to mix the mead of poetry.

The Roman version of the tale is the familiar story of the Sabine War. Here Rōmulus, who combines both the qualities of the priest in establishing the city of Rome and that of a warrior (he is the son of Mārs) leading his warbands, finds that the city of Rome still lacks the aspect of "fecundity" which is possessed in abundance by Titus Tatius and his Sabines. During the war, Titus attempts to bribe Tarpeia, the daughter of the Roman charged with guarding the Capitoline hill, and this theme of golden bribes has been compared by some with the role of Gullveig in the Norse account. As the war pitches back and forth to no apparent end, the Sabine women place themselves between the two forces and, in marrying the Romans, forge the communities together into a whole which now embraces all three functions.

Parallels from other IE traditions are not so precise. Elements of the "Second Battle of Mag Tuired" in Irish myth, which may be interpreted as the eschatological confrontation has also been taken to possess traces of the "War of the Functions" where the conflict pits the Tūatha Dē Danann (the first two functions) against the Formorians who have a tenuous association with fertility. But unlike the Norse and Roman myths, there is no "incorporation" of the enemy into the social whole. The Trojan War has also been analyzed in terms of the functional war with the Greeks representing the first two functions and the Trojans the third. A better parallel is seen in ancient India. Here it is the representative of the Second Function, Indra, who refuses the admission of the Aśvins into the divine circle of power. The latter are the "Divine Twins" and as such, representatives of the Third Function. They are assisted in the incorporation by Mada, the demon of 'drunkenness', who has been compared with the Norse motif of the mixing of the poetic mead at the conclusion of the war between the Æsir and Vanir. Indra is coerced into admitting the Aśvins to the central power of the other deities.

See also COMPARATIVE MYTHOLOGY; COSMOLOGY; ESCHATOLOGY; WARRIORS. [J.P.M.]

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WARRIORS

Whatever the theories that have been propounded concerning a Proto-Indo-European social organization, the group or segment operating in what Georges Dumézil identified as the *fonction guerrière*, his Warrior or Second Function, that is, the function dedicated to the forcible defence or armed expansion of any given society, is one that evidently appears early and occupies an important social and possibly a political role. This conclusion is suggested by the fact that the early IE word for 'people,' as in OIr *tūath* (from PIE **teutéh₂-*), or Greek *λᾱ(ϝ)ός*, may in fact signify 'the people in arms', that is, the warriors. Distinct warrior groupings with their own codes of conduct also appear in early codes marked by an independent 'wilfulness' (OInd *svadhā́* 'inherent power, habitual state, custom' which is cognate with Grk *ἔθος* 'custom, usage, habit' and OLat (pl.) *suodālēs* 'members of an association'). A later meaning is 'group of comrades'. The most archaic IE sources also display two other dimensions of the warrior: as a fighting élite, organized in high-status clans, and defined politically as an aristocracy, and as an imaginative projection of superior, even superhuman warrior virtues collected into the form of the hero. In terms of PIE myth, the origin of the warrior élite (or, the hero who exemplifies its excellences) is almost always cast back into a trackless and shadowy Past Time; it may be conjectured that the perfect origin-tale referring to the warrior has him springing directly from the earth, without parents or any human intervention, as in the case of the Greek *σπαρτοί* the 'sown men' (i.e., those who claimed descent from the dragon's teeth sown by

Kadmos) of the ancient Kadmean myth. This Second or Warrior Function, whatever its origins, continues as a potent socio-political force, projecting what one scholar (Joël Grisward) has called its "totalitarianism", its thrust toward weakening and co-opting the powers of the First (Sovereign) Function, while either ignoring or denigrating the powers of the Third Function, powers of supportive increase, wealth, and sexual force. In historical terms, we can note that both of the classical Mediterranean civilizations, the Greek and the Roman, experienced this totalitarianism in the advance of aristocracies to political dominance and the retreat and even the obliteration of monarchic sovereignty: in Greece aristocratic dominance is seen from about the eighth to the fourth centuries BC, and in Rome for the period of the Republic, that is from about the late sixth to the late first centuries BC.

Organization

Research into the subject of the IE warrior usually begins with a focus on the collective, the war-band, mainly because we have good evidence of these warrior organizations from Germanic, Irish Celtic, Indic and other IE-speaking traditions. Admittedly, this evidence is rather late, that is, dated to the late Bronze or Iron Age, but the evidence is supported by more archaic linguistic data bearing on war-band terminology. At base, our information on the war-band seems to identify two modes: the initiation-cohort of young, adolescent males with their older trainers or models, and the true *Männerbund* or *comitatus*, the warrior group connected to or following a particular war-leader or chieftain. The two modes may be combined, as when the Irish *fīanna*, defined as 'war and hunting bands' who live and fight on the edges of ordinary society, are also said to be involved in initiating the young men of the tribe into adult warriorhood. The first mode may be composed of bands of adolescent youth, separated from society and in transition to full warrior status, as seen, for example, in the Irish *Tāin Bō Cūalgne* "Cattle Raid of Cooley", where *in maccrad*, 'the youths,' often translated as the 'boy troop' of the king (and being kings' sons themselves) were associated with the magnificent hero-champion Cū Chulainn who was their leader. Another, historical example of an initiation cohort is made visible in the Athenian social institution of the *ephēbeia*, in which adolescent males were trained and readied for full societal membership and warrior status; this ephebate has been shown (by Pierre Vidal-Naquet) to have emphasized, in its training, the "dark" side of warfare—night attacks, trickery, disguise, ambush and secrecy. Both of these instances show a focus on an essential adolescent difference, perhaps on different aspects of the confrontations and contests, involved in game and play.

The *comitatus* was the Latin word given by Tacitus to describe a Germanic warrior-band bound to its war-leader by mutually sworn oaths; the leader sworn to deal faithfully with his followers so far as loot—and, presumably, glory—was concerned; the warriors in turn were oath-bound to obey and, especially, were sworn not to survive a war-leader slain in battle. An example of this ethos of terminal loyalty is found in the Anglo-Saxon poem "The Battle of Maldon". In such an IE warrior organization as this the particular emphasis is always on the personal tie between the leader and his "man", and also on the fact that the leader was never simply a commander or tactical expert, but was expected to show at all times a personal example of courage and fighting skills.

Our evidence, both historical and literary-legendary, seems to show the paramount importance of the exceptional IE warrior. The historians Polybius and Dionȳsius of Halicarnassus describe the Gaulish warrior-élite who advanced to fight naked "before the host"; the Welsh Celtic Triads, which refer in a series of triplets to information that was important to remember about the ancient affairs of the "Island of Britain" in Arthurian times, speak of the three "diademed men" or "gorgeted men" who were always expected to be at the forefront of the host in battle. The image of the Champion is very strong in this IE evidence; the fighter showing his individual prowess is always given precedence over any display of military mass, discipline, or war-group solidarity. An IE-speaking people like the Romans made a special point of emphasizing strict military discipline and mass maneuver, yet they found themselves facing the older IE mode in the form of Gallic and Germanic fighting tactics and their emphasis on the single champion. In Virgil's *Aeneid* strict Roman discipline is anachronistically inserted into the wars between the Rutulians and Aeneas' forces, and the poem criticizes, while it praises, those warriors who broke formation to show off their personal bravery or *virtus*. Still, the well-known Roman institution of the Triumph, though evidently cast in an Etruscan (non-IE) guise, was based on the celebration of a victory won by a Roman commander, the *triumphator*, in personal combat with an enemy chief. In general outline, then, the IE evidence elevates and even idolizes the single and singular warrior in combat: he is the cynosure, more admired than any commander, unless the commander is himself a war-skilled and courageous individual, one who leads by example.

In fact, the IE warrior who is the center of a great deal of attention is the warrior who has entirely escaped social control of any kind; the warrior seized by the psychic spasm called *furor* or *wut* or, in the Norse-Icelandic sagas, the fighter called *berserksgangr* 'gone berserk'. In this phenomenon—widely apparent in the IE evidence bearing on the fighting-man though not only there—the individual warrior, battle-mad, passes out of any human control. The best etymology of *berserk* (< *'bear-shirt') stresses its animalized element; the fighter stricken by this crazed situation abandons any human personality and turns feral, becoming like a bear or a wolf. The Old Irish equivalent is the *rīastrad*, 'the act of contorting', exemplified in the behavior of the hero Cū Chulainn when pressed in battle or angered, which emerged as a total distortion of his features (the warp-spasm) and his assumption of a single-minded aggressive stance. Some theories have suggested that the Norse *berserkir*, at least, may have used hallucinogenic mushrooms to achieve this maddened state

in which they became, among other things, more or less impervious to wounds; there is no final proof on this score, and it is most likely that the warrior's *furor*-filled state was induced by auto-suggestion and triggered by frustration or some other intense emotional situation or crisis. In fact the berserk-warrior carries to an extreme a marked sense of the isolation and separation of the IE warrior as a type, that is, showing what Dumézil has called the "dysfunctional" warrior ethos, completely turned against society, and not amenable to any direction, rule or command. However, we ought to note that warrior-heroes can be "shamed" into regaining control of themselves, as Cū Chulainn, enraged, was first calmed and quietened by women flaunting their sexuality at him, and then literally cooled or quenched in cauldrons of cold water. Magical or quasi-magical *satire* can also affect and de-energize an enraged warrior.

Weapons and Tactics

Archaeological findings, at least those dated from the Bronze Age on, give us a certain cross-check against the epical and other accounts of the IE warrior's weapons and war-tactics. These discoveries confirm, for example, that the horse-drawn war-chariot was used by Celtic and, earlier, Mycenaean warriors, though eventually it would be replaced by the true war-horse. The war-chariot pulled by two horses is featured in Indic epic, in the Greek *Iliad*, and in Irish Celtic hero-tales, though there is a strong suspicion that the sole use of the chariot by the elite hero-warrior may have been an imaginary construct—there is no good evidence, for example, for chariotry as early as the *Proto*-Indo-Europeans. In all three of these epic traditions the chariot carried one warrior of rank along with his charioteer; the charioteer was in theory a non-combatant (at least in the Irish tales, though he could be directly involved in and at risk at the action of battle, as in the *Iliad*). Ordinarily the war-chariot was not deployed as a shock-weapon: in the Indic epic *Mahābhārata* it is used as a platform from which the warriors shoot their great bows; elsewhere it delivered the élite fighter to the battle and then withdrew. Caesar describes the Gallic chariot (*essedum*) he saw used in this manner, and he also describes the "play" the Gallic chariot-warrior made, running and balancing on the chariot's draught-pole at speed; such displays were also part of the repertoire of the Old Irish epic heroes.

The riding horse was known to early IE-speakers, yet the three IE contexts named ignore the ridden horse in favor of the heroic chariot, as we have noted. In fact, the appearance of what we would call a true cavalry was not very significant in military terms in, for example, the two classical civilizations, where horsemen (Grk ἱππεῖς, Lat *equitēs*) were important in a socio-economic sense, since only a noble or aristocrat could afford the animal as a mount. The horseman would reveal his true value as a fighter, in fact and in imagination, only after the development (in the second–fourth centuries AD, reaching Persia and Byzantium by the sixth century and western Europe by the eighth century) of an effective means to control the horse, and the appearance of the true saddle-and-stirrup to steady the rider. After this advance we will fairly soon see the *ritter*, *cavalier* or *cabellero* or the knight, that is, the heavy-cavalry horseman, and eventually, in the medieval period of western European history, we can also see a return to a recognizable IE social pattern, as this society is again described as a readably trifunctional structure, the horsed, armed and armored knights shown as Second Function, war-making *bellatores* protecting the First Function *oratores*, those who pray, and the Third Function *laboratores*, those who work.

Technology, history, and the works of the imagination are also combined in our reconstruction of the weaponry used by the IE warrior. The *Iliad* knew of the 'well-honed bronze', a slashing-sword, but the primary weapon in this epic is the warrior's heavy spear, used either to throw or to thrust. The spear and the sword together mark off the warrior, to some degree, as he appears in most IE traditions, and this pattern continues into the early medieval period (also the time of the great Eurasian folk-migrations and invasions) when the earliest heavy horsemen made their appearance, and sword-and-lance certainly identify the medieval knight of a later period. Other weapons of war are known; the war-bow is seen either as a primary heroic weapon, as in the Indic epic evidence, or more often as a vaguely suspect missile-weapon, as it is in the *Iliad* and elsewhere; it is altogether absent from any early Irish text—although the sling is known—and whenever it does occur later it is clearly a borrowed motif. Sometimes the warrior-hero is overarmed: in the Old Irish tales, supreme warrior-heroes like Cū Chulainn are provided with an elaborate personal armory, including any number of different spears, javelins, swords and even shields with sharpened edges, to say nothing of mysterious and nearly unidentifiable weapons like this hero's *gae bolga*.

In literature the sword remains the IE warrior's weapon *par excellence*. Both heavy slashing-swords and shorter stabbing-swords have frequently been found in Celtic and other burials; it has also been suggested that from about the seventh century AD that technical advance in iron-smithing called damascening or faggot-forging began to produce very superior steel swords, swords that increasingly make their appearance in the epic and saga literature as "named" weapons, possessing a kind of power and personality of their own, and inherited or otherwise passed on from warrior user to user. There are also hints that the (western) IE warrior may carry not one but two swords: the first an heirloom or "family" blade, the second a personal weapon. Evidence for these two swords, and what they might signify, comes mainly from the Norse-Icelandic sagas, but also from Welsh, Irish, and Spanish epic contexts.

War Gods and the Second Function.

The identification of specific and unmistakable war gods, gods strictly associated with the IE Second or Warrior Function and only concerned with that function, is not as simple or easy as it might seem. Problems of identification

and interpretation, of obscure sources difficult to use, lost data, names without descriptions—all this conspires to confuse our conclusions. To begin with a clear image and usage, the Indic god Indra, with his following of 'wild' Maruts, obviously belongs in the warrior's function and acts as a warriors' emblematic god, yet Indra must have replaced another Indic god, Vāyu, who is closer to the wind-and-weather god type, while in the related Indo-Iranian pantheon, after the Zoroastrian reforms, Indra's (Av Indara's) furious divinity is replaced by Miθra, a god with wide cosmic responsibilities including the military. The Roman War god Mārs would seem to follow the pattern of uncomplicated predictability, yet Mārs had a significant association with the wilderness, with the dark unknown, not only with licit combat, and on the other side he patronized husbandry and good order on the cultivated land. By the evidence of myth the Greek War god Arēs probably belongs in a pre-Hellenic, pre-IE stratum, though Enȳalios, with an IE root and meaning 'war-fury' and later taken as an adjective-substitution for Arēs, shows up in the earliest Greek (Mycenaean) Linear B texts. When we bring in the Gallic, associated Celtic, and Germanic areas, where war and the warrior obviously had a huge and dramatic place, the IE Second Function divinity, his meaning and his cult, becomes very hard to identify and track.

Rome was aware of the warlike Gauls from the fourth century BC onward, and eventually Caesar, commanding in Gaul, gave Roman names to the Gallic gods; Mārs, as a War god, is one of these names. The Gallic Mārs may be equated with one or more than one of a number of Gallo-Celtic gods whose names and images, at least, we know. Iconography and analogy draw our attention to Sucellos, a god who seems to have some connection to the wilderness (as Mārs does to the Roman forest-god Sylvānus), Sucellos may be a forest-deity who is also shown wielding a hammer, like the Norse Þōrr. Yet the true Gallic 'thunderer' is the god Taranis (< **taranu-*), whose name means the same as the Germanic War god Donar, and to this Taranis humans were supposed to be sacrificed *by fire*, which we think of as a Second Function sacrificial mode. Then there is Ogmios, whom the Celts, according to one Roman observer, equated with Hēraklēs, and Ogmios clearly is parallel to the Irish god Ogma in the Irish myth-epic, 'the strong one' who leads men in arms. Yet again we know of the Gallic Teutates, sometimes depicted with helmet and lance, and whose name perhaps shows that he leads 'the people in arms'. There is also some important evidence describing chief-gods, gods we would identify as divinities of the IE Sovereign Function, but whose power extends and operates through all functions; a Gallic Jūpiter is widely known who, like the Roman Jūpiter in his War god guise, was called on for assistance in war; the Irish parallel to him would be Lugus or Lug, whose powers are not constricted into or by any one function. Finally, there is Celtic (especially Irish) evidence for a *feminine* war-deity, called Bodb, Macha or the Morrīgan, an embodiment of the quasi-sexual seizures of "fiery combat", who may be both friend and foe to heroes.

The other IE people well known to the Romans, the Germanic tribes, throw up some confusions of their own so far as the War god or the Warrior god is concerned. The Teutonic 'thunderer' Donar, has already been mentioned; we would see him transformed into the god Þōrr of the Scandinavians, as Wotan became ON Ōðinn. Yet so far as the "religion" of the Germanic-Scandinavian warrior is concerned, their War god might be taken either as Ōðinn in the First Function or as Þōrr in the Second: Ōðinn represents the uncontrollable, the uncertain, chaotic, dark, fatal energy of combat; a god who is similar but not identical to him would be the Elbe Slav Svantovit, bringer of victory, oracle, and also associated with the revelation contained in alcoholic drink. Þōrr seems to show the sacral energy released in war as it is controlled and socialized, so Þōrr's hammer is his special weapon against inhuman forces, personified as giants and monsters; other IE 'striking' gods, like the Russo-Slav Perun and the Lithuanian Perkūnas, are more in the mode of Þōrr. The feminized side of war-making is seen here as well: Ōðinn accepts the battle-dead as sacrifices, but only half of them; Freyja, goddess of love (and, in this case, of death) takes the rest.

The warrior's god clearly assumes a great number of postures and stands for any number of potencies, from the general guardianship of society, to the symbolizing of war as a primal, extrahuman force, to the representation of utterly individual berserkr energies. His ambiguity, like the warrior's ambiguity, is paramount. So far as cult is concerned, it seems that the IE warrior usually "worshipped" his god by offering blood; the sacrifice of his enemies and finally the sacrifice of himself. Such an offering continues on into the post-pagan period, when the IE warrior is more or less Christianized.

We can tentatively conclude that there was no unitary, PIE 'War god'. Perhaps we can also say that the club-armed thunder-gods (Þōrr, Indra, Sucellos) represent the intuition that war, that most important warrior activity, like thunder, was natural but also frightening and dramatic, an awful but natural event for the warrior and for his IE society.

Aspects of Indo-European Ideology

The IE warrior, operating in Dumézil's definition of a Second Function, is also tied to other aspects and operations of that functional system, and to the rest of the tripartative system as well. There are four themes or scenarios that need to be laid out and briefly examined here: (a) the "War of the Foundation", (b) the cattle-raiding myth, (c) the theme of the "Sins of the Warrior", and (d) the Ōðinn warrior/Þōrr warrior bifurcation.

(a) The "War of the Foundation" or "Interfunctional War". In this mythic confrontation the IE First and Second Functions are allied, and face off against, master, and finally incorporate into one triplex whole the different but significant potencies of the Third Function. The victory of sovereign and war-like forces is for a time held off by the powers of this Third Function, but the latter is eventually defeated by the over-mastering magical potency of some

dominant First Function figure. The paradigmatic Inter-functional War is often identified as the one that takes place between the Norse divine divisions of the Æsir and the Vanir; Indic epico-myth (in the *Mahābhārata*) and Roman myth-history (the confrontation succinctly called the Rape of the Sabine women) lays out the same situation, while other examples have been suggested, taken from the Greek *Iliad* and from certain Norse sagas. Of the various reflexes of Inter-functional War, the Scandinavian and Roman show the most complete scenario: the opposition between First and Second Functions on one side and the Third Function on the other (Æsir against Vanir, Romans against Sabines); the attempt by the Third Function to win by means of a Golden Bribe (Gullveig [power of gold] tempts the Æsir, Titus Tatius tempts Tarpeia); the act of *grande magie* that ends the battle (Ōðinn hurls his magic spear across the battle-line, Rōmulus successfully calls on Jūpiter); and, finally, the peaceful juncture of the two sides. In other reflexes of this war, for example, the *Mahābhārata* and the *Iliad*, no joining of the two opponents occurs. An important point here is that Second Function war-like force is not seen to be enough to overcome the mythical enemy's complex power-field.

(b) The IE or PIE cattle-raiding myth. This scenario is based on a situation in which the key element, the herds of cattle which are both the secular and the sacred capital of an IE nomadic collectivity, are stolen by a non-IE enemy people, retaken by force by an IE warrior élite, and then are returned by the victors to a First Function priestly class for the appropriate sacrifice to the upper powers. The cattle-raid as a warrior activity is widely known and deployed throughout our IE sources; here it is sacralized and even cosmicized. A sacralized aspect is seen in the Indic royal consecration, the *rājasūya*, which includes a mock cattle-raid. In epic terms, cattle-raids are featured in the *Iliad* and the *Odyssey*; they, of course, make up a separate category of Old Irish heroic tales, where eleven *tāna bō* or 'Cattle-Raids' have survived to us, the best known being the *Tāin Bō Cūalgne*. Returning to the mythic level, it has been suggested (by Bruce Lincoln) that the cattle-raid is part of the same mythic context as the "Combat with the Tricephalic Monster".

(c) The "Sins of the Warrior" is an important IE theme that was examined by Dumézil in two successive treatments, the later differing slightly in emphasis and conclusions from the earlier. In this theme a warrior-hero figure commits three sins or delicts against each of the three functions, that is, he serially violates one or more of the bundle of rules that define and govern these functions. The clearest example of these three sins is contained in the legend of Starkaðr or Starcatherus, the "old hero" who appears in Saxo Grammaticus and briefly in *Gautrekssaga*. Starkaðr's three sins are regicide, a cowardly flight from battle, and another regicide committed for money; his first sin also involves the IE theme of the royal Threefold Death. The career of Hēraklēs, whose heroic biography puts him close in type to Starkaðr, shows his three sins as, first, ignoring the will of the sovereign god, Zeus; second, killing a foe by treachery; third, committing adultery. In the Indic *Mahābhārata* the warrior-king Śiśupāla (whom Dumézil substituted for the god Indra in his second treatment of the Sinning Warrior theme) sins against the Second Function by attacking his enemies in a cowardly fashion, attacks the First Function by preventing the great horse sacrifice necessary to Indic kingship, and commits a sexual delict by secretly lying with a married woman. In all of these examples the sin brings a fitting punishment, and after the last sin the warrior-hero dies. It appears that the IE warrior-hero should be a great sinner, a frequent and unashamed defier of functional rules, and a close examination of the careers of these warrior-heroes will usually reveal incidents more or less closely resembling the paradigmatic three sins of the warrior.

(d) As a last example of an ideological theme, the IE theme displaying the bifurcation and opposition between a warrior of Þōrr and a warrior of Ōðinn was first extracted from the North German legend of Starkaðr, over whom the two gods named had a debate, the one granting him certain boons while the other attached matching ills to the benefits. Despite the fact that the god Þōrr was inimical to Starkaðr because of the latter's Giant ancestry, this hero appears to be a Þōrr-warrior, for the two types are differentiated according to whether the warrior is drawn toward social service, especially service to kings, or places himself in opposition to kings and to the Sovereign Function. The king's Champion, the standard-bearer or, in the sagas, the royal 'forecastle-man' would be defined as Þōrr-warriors. The bifurcation is clear in a saga such as *Egils saga Skallagrīmssonar* but it is not at all limited to the Scandinavian North. Another characteristic division between the two types has the Ōðinn-warrior show tricksterish features, while the Þōrr-warrior plays a straight but vulnerable hand, often falling victim to the very king he serves. Finally, a pairing of warrior-heroes that has a close familial resemblance to the Þōrr-warrior/Ōðinn-warrior theme contrasts a more feral or dangerous warrior-type to his "straight" partner: examples would be Arjuna and Bhīṣma in the Indic epic, and Cei and Bedwyr in the old Welsh sources.

See also AGE SET; COMPARATIVE MYTHOLOGY; COW; HORSE; THREEFOLD DEATH; THREE-HEADED MONSTER; WAGON; WARFARE; WAR GOD; WAR OF THE FOUNDATION. [D.A.M.]

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WASH *see* CLEAN

WASP

***$h_{2/3}$u̯opséh$_a$-** 'wasp'. [*IEW* 1179 (**u̯obhsā*); Wat 78 (**wopsā-*); GI 453 (**wob^{h}sā-*)]. MWels *gw(y)chi* (pl.) 'drones', Lat *vespa* 'wasp', OE *wæfs* ~ *wæps* 'wasp' (> NE *wasp*), OHG *wafsa* ~ *wefsa* 'wasp' OPrus *wobse* 'wasp', Lith *vaps(v)à* 'wasp', Latv *vapsene* 'wasp', OCS *osa* 'wasp', Rus *osá* 'wasp', (dial.) *osvá* 'wasp', MPers *vaβz* 'wasp', Baluchi *gwabz* 'bee, wasp, hornet' (Iranian < rebuilt **u̯obhseh$_a$-*). From **$h_{2/3}$u̯ebh-* 'weave' as one which builds (= weaves) a (wasp-)nest. **$h_{2/3}$u̯op-s-éh$_a$-* is clearly of PIE age itself but it is morphologically a derivative of **$h_{2/3}$u̯obhes-* which may be preserved in a different form in NHG (Bavarian dial.) *webes* (< **u̯obhes-eh$_a$-n-*) 'wasp'.

See also BEE; HORNET; INSECTS; TEXTILE PREPARATION. [D.Q.A.]

WATCH

***bheudh-** 'pay attention, be observant'. [*IEW* 150–151 (**bheudh-*); Wat. 8 (**bheudh-*); GI 150 (**b^{h}eud^h-*); BK 1 (**baw-/*bəw-*)]. Pres. **bhéudhetor.* ON *bjóða* 'ask, offer', OE *bēodan* 'ask, offer', OHG *biotan* 'ask, offer', Goth *ana-biudan* 'order', OCS *bljudǫ* 'observe', Rus *bljudú* 'observe, pay attention to', Grk *πεύθομαι* 'examine, experience', Av *baoδaiti* 'notices, observes', OInd *bódhati* 'is awake, wakes up, observes, understands'; pres. **bhu-n-dh-*: OIr *as-boind* 'refuse', Lith *bundù* 'awake', Grk *πυνθάνομαι* 'examine, experience'. Cf. also TochA *pot-* 'flatter', TochB *paut-* 'flatter'. Widespread and old in IE.

***su̯erh$_x$K-** 'watch over, be concerned about' (pres. ***su̯érh$_x$ghti**). [*IEW* 1051 (**su̯ergh-*); Wat 68 (**swergh-*); GI 105]. ON *sorg* 'sorrow, pain', *syrgja* 'be concerned about', OE *sorg* 'sorrow, pain, grief' (> NE *sorrow*), *sorgian* 'grieve, be sorry for; be anxious about', OHG *s(w)org* 'sorrow, pain', *s(w)orgēn* 'be worried about, care for, be sorry for', Goth *saúrga* 'sorrow, care', *saúrgan* 'take care for, look after' (Gmc nouns < **su̯r̥h$_x$Kéh$_a$-*; except for ON *syrgja*, all the Germanic verbs reflect denominative **su̯r̥h$_x$K-eh$_1$-*), OPrus *but-sargs* 'householder', *absergisna-* 'protection', Lith *sérgti* 'keeps watch over', *sárgas* 'guard', Latv *sar̃gs* 'guard', OInd *sū́rkṣati* 'takes care of'. The geographical distribution virtually assures PIE age for this word. The nature of the final consonant is ambiguous. A **-gh-* would work for all languages or, since Lithuanian suggests an original athematic present an alternation of **-g-* (from **su̯érh$_x$gmi* and generalized in Baltic) and **-k-* (from e.g., **su̯érh$_x$kti* and generalized in Germanic) would also be possible.

See also PERCEIVE; SEE; SHOW. [D.Q.A.]

WATER

***u̯ódr̥** 'water'. [*IEW* 78–80 (**au̯ed-*); Wat 73 (**wed-*); GI 579 (**wet'-*); Buck 1.31; BK 483 (**wat'-/*wət'-*)]. OIr *uisce* (< **ud-n̥-s-ki̯o-*) 'water', Lat *unda* 'wave', Umb *utur* (abl.) *une* (< **udnī*) 'wave', ON *vatn* ~ *vātr* 'water', OE *wæter* 'water' (> NE *water*), OHG *wazzar* 'water', Goth *watō* 'water', OPrus (masc.) *unds* (neut.) *wundan* 'water', Lith *vanduõ* 'water', Latv *ûdens* 'water', OCS *voda* (with *-ndn-*) 'water', Alb *ujë* (< **udr-i̯o-?*) 'water', Grk *ὕδωρ* (gen. *ὕδατος*) 'water', Phryg *βεδυ* 'water', Arm *get* 'river', Hit *wātar* (gen. *witenas*; pl. *witār*) 'water', Av *vaiδi-* (< **u̯ed-?*) 'watercourse', OInd *udan-* (gen. *udnás*) 'water', TochA *wär* 'water', TochB *war* (Toch < **udrom*) 'water'. The Hittite paradigm points to an original (nom.) **u̯ód-r̥*, (gen.) **u̯éd-n-s*, (loc.) **ud-én(i)*, with a collective **u̯éd-ōr* (acc. **ud-én-m*, gen. **ud-n-ós*). The PIE word for 'water'.

***h_2ēp-** ~ ***$h_2$ep-** 'living water, river'. [*IEW* 51–52 (**āp-*); Wat 3 (**ap-*); GI 578 (**Hap^h-*); Buck 1.31]. OPrus *ape* 'river', Lith *ùpė* 'river', Av *āfš* (gen. *apō*) 'water', OInd *áp-* (nom. pl. *āpas*; acc. pl. *apás*) 'water', TochAB *āp-* 'river'. Hit *hapa-* 'river', sometimes connected with this word, probably belongs rather to **$h_2$eb(h)-* 'river'. Uncertain are river names in *-apa*, OHG *-affa* (river name suffix), Thracian *Ἄπος* (river name). Grk *Ἀπιδών* (river name) is undoubtedly non-IE.

***$h_a$ek^{w}eh$_a$-** 'water'. [*IEW* 23 (**ak^{u}ā-*); Wat 1–2 (**ak^{w}ā-*); GI 579 (**ek^{ho}-*); Buck 1.31]. Lat *aqua* 'water', ON *ō* ~ *ǫ* ~ *ā* 'river, water', OE *ēa* 'river, water', OHG *aha* 'river, water', Goth *aƕa* 'river, water'. Limited to Latin and Germanic. ON *ægir* 'sea, seagods' is supposed to have **h$_a$ēk^{w}iós*. The verb 'to drink' (e.g., Hit *ekuzzi*, TochAB *yok-*), which points to a long **ē*, need not belong here for semantic reasons.

***i̯uh$_x$-r-** 'water?' [Del 183]. OPrus *iūrin* 'sea', Lith *jū́rės* (pl.) 'sea', *jáura* 'swamp', Latv *jũŗa* 'sea', Thracian *iuras* (name of a river). If Lith *jáura* derives from **i̯euh$_x$r-* (**i̯eh$_2$ur-?*), we have an ablauting *r*-stem with a root **i̯euh$_x$-/*i̯uh$_x$-*; but the Lithuanian ablaut may be secondary. Although sometimes cited here, Arm *jur* 'water' cannot come from **i̯ur-*.

***u̯é/óh$_x$r** 'water'. [*IEW* 80 (**au̯er-*); Wat 77 (**wēr-*)]. Lat *ūrīnārī* 'plunge into the water' (*ūrīna* 'urine' is a secondary development), ON *ūr* (< **uh$_1$r-*) 'fine rain', OE *ūrig* 'moist', OPrus *wurs* (if from **ūras*) 'pool', Arm *gayr* (< *?*u̯r̥i̯o-*; the *-r̄* is problematic) 'marsh', Luv *wār(sa)* 'water', Av *vār* 'rain', OInd *vā́r(i)* 'water, rain' (disyllabic: /vaar/). The Old Indic disyllabic forms point to **u̯éh$_x$-r̥* (or **u̯óh$_x$-r̥*). OIr *fīr* if 'milk' has been claimed as cognate (< **u̯eh$_1$-r-o-*). The existence of ON *aurr* 'moistness' is doubtful. Neither do Lith *vìrti* 'boil' nor OCS *vīrěti* 'boil, seethe' belong here. Nevertheless, distribution still assures PIE status.

?*u̯ōp- '?water'. [*IEW* 1149 (**u̯eo-*)]. OPrus *wupyan* 'cloud', Lith *ūpė* 'river', OCS *vapa* 'lake, marsh, pond', Hit

wappu- 'river bank', OInd *vāpī* 'pond'. All the connections here have been challenged and any reconstruction is very uncertain.

See also LAKE; RIVER; SEA; WET. [R.S.P.B.]

Further Reading

Watkins, C. (1987) Two Anatolian forms: Palaic *aškumāuwa-*, Cuneiform Luwian *wa-a-ar-ša*, in *Festschrift for H. Hoenigswald*, ed. G. Cardona, Tübingen, 399–404.

WAVE

?*u̯l̥h$_x$mi- 'wave'. [*IEW* 1140–1142 (**u̯el-*); Buck 1.35; BK 505 (**wal-/*wəl-*)]. OE *wielm* ~ *wylm* 'boiling, heat', OHG *walm* 'wave', Av *varəmi-* 'wave', OInd *ūrmí-* 'wave', perhaps TochB *yolme* (< **u̯ēlh$_x$mo-?*) 'pond'. As the primary meaning of the Germanic words refers to agitation through heat, these are not really comparable to the Indo-Iranian forms and do not permit the reconstruction of a PIE word for 'wave'.

See also BOIL. [R.S.P.B.]

WAX

***kóh$_a$-r̥** (oblique ***kh̥$_a$-n-** and ***kh$_a$-en-**) 'wax'. [*IEW* 532 (**kār-*)]. Lith *korȳs* 'honey-comb', Latv *kâre(s)* 'honey-comb', Grk *κηρίον* 'honey-comb' (these three < **keh$_a$rii̯om*), *κηρός* 'wax' (> Lat *cēra* 'wax' > OIr *céir* 'wax', Wels *cwyr* 'wax', etc.), Alb *huall*, *hoje* (< **xōl-(jā)* with irregular development of **-l-* from **-n-* < pre-Alb **xōn-* < PIE **s-keh$_a$-n-*) 'honey-comb'. Cf. also ON *hunang* 'honey', OE *hunig* 'honey' (> NE *honey*), OHG *honag* (< **koh$_a$-on-kó-* 'that which is derived from beeswax') 'honey', OPrus *cucan* (< **koh$_a$-n-ko-*) 'brown', Grk *κνηκός* (Doric *κνᾱκός*) (< **kn̥h$_a$-kó-* metathesized from **kh̥$_a$n-ko-*) 'golden', OInd *kāñcana-* (< **koh$_a$-n-ke-no-*) 'golden'. An archaic term for 'wax', a neuter noun, is concealed in Grk *κηρός* which was loaned into Latin as a feminine and thence into Celtic. A neuter derivative noun for 'honey-comb' is, but for gender, an exact match with the Baltic terms, pointing to a common stem also found dissimilated in Albanian. Derivatives referring to 'honey' are also found in Germanic and as color-terms in Baltic, Greek and Indic.

***u̯os(h$_x$)-ko-** 'wax; flowable, oozy'. [*IEW* 1180 (**u̯okso-*); Wat 78 (**wokso-*); GI 523]. ON *vax* 'wax', OE *weax* 'wax' (> NE *wax*), OHG *wahs* 'wax' (< Proto-Gmc **waksa-* metathesized from Proto-Gmc **waskan*), Lith *vãškas* 'wax', Latv *vasks* 'wax', OCS *voskŭ* 'wax', Rus *vosk* 'wax'. A north-western term which is semantically matched by Alb *dyllë* (< **ĝhud-lom*) 'wax' from the root 'to pour'. This may refer to the low melting temperature of wax, a property of paramount importance for the development of bronze casting using the technique that still goes by the name of *cire perdue* 'lost wax'. This technique begins to appear widely in Europe from at least *c* 1200 BC onwards.

See also BEE; HONEY. [M.E.H.]

WAY

***sentos** 'way, passage'. [*IEW* 908 (**sent-*); Wat 58 (**sent-*)]. OIr *sét* 'way', Wels *hynt* 'way', ON *sinn* 'time', *sinni* 'way, company', *sinna* 'travel', OE *sīþ* 'way, side', *sīðian* 'go, depart, travel, wander', OHG *sind* 'way, side', *sindōn* 'go, depart, travel, wander', Goth *sinþs* 'time', Arm *ənt'ac'* 'way, passage', TochA *ṣont* (< **sēntu-*) 'street'. From **sent-* 'go'.

See also FIND ONE'S WAY; ROAD. [D.Q.A.]

WEAK

***losii̯os** 'weak'. [*IEW* 680 (**ləs-*); Buck 4.82]. Goth *lasiws* 'weak', TochB *leswi* (pl.) 'attacks of weakness'. Cf. with a different formation: ON *lasinn* 'weak', NE *lazy*. The exact formal and semantic equation argues for late PIE status for this word.

***h$_a$epus** 'weak'. [*IEW* 52 (*ap-*)]. Lith *opùs* 'tender, delicate, sensitive', Grk *ἠπεδανός* 'fragile, weak; maimed, halting', OInd *apvā́* 'a certain illness', *apuvāyáte* 'become ill, spoil'. Cf. also Av *afša-* 'damage, injury'. Perhaps a derivative of the locative adverb **h$_4$épo/h$_4$épu* 'back(wards)'. Cf. ON *ǫfugr* 'turned the wrong way', OHG *abuh* 'turned the wrong way' (< **h$_4$epuko-*).

See also SICK; SMALL; TIRED. [D.Q.A., J.C.S.]

WEALTH

***h$_2$ó/ép(e)n-** 'goods, wealth'. [*IEW* 780 (**op-*); Wat 46 (**op-*); GI 649–650 (**Hop^h-r/n-*); Buck 11.42; BK 391 (**ħap[^{h}]-/*ħəp[^{h}]-*)]. Lat *opulentus* (< **opunentus*) 'rich, wealthy; opulent', Grk *ἄφενος* 'wealth', *ἀφνειός* 'well-off, wealthy' (< early Greek **apnehios* with transfer of the aspiration to the preceding **-p-* and thence to **apenos*), perhaps *ὄμπνη* 'nourishment; grain; rich cake', Hit *happina(nt)-* 'rich', Av *afnah-vant-* 'wealthy', OInd *ápnas-* 'wealth'. A root noun **h$_2$óps* is attested in Lat *Ops* (deity of abundance), *opēs* (pl.) 'possessions, abundance, wealth', *inops* 'without resources, poor', *cōpia* 'abundance, plenty'. Cf. also OIr *sommae* 'rich', and *doimm* 'poor' from **su-op-s-mii̯o-* and **dus-op-s-mii̯o-* respectively. Widespread and old in IE. Because of the initial *a-* (rather than **o-*) the Greek word is often taken to be a borrowing from some Anatolian source. However, the fact that the Greek word is an *s*-stem, unparalleled in Anatolian and in Greek a largely unproductive category which would not normally attract a borrowing (and is, moreover, the exact equivalent of Av *afnah-* and OInd *ápnas-*) speaks strongly against the borrowing hypothesis. Thus the initial laryngeal must be **h$_2$-* and the common association of this word with the semantically divergent Anatolian set with suffixal **-r-* that includes Hit *happar* ~ *happir* 'business, trade; compensation, payment, price', *happiriye-* 'town' (< *'market'), Lycian *epirijeti* (< **h$_3$(e)perie̯/o-*) 'sells', which must begin with **h$_3$-*, must not be correct. Perhaps, instead it should be connected with **h$_2$op-* 'work'.

***réh$_1$is** (gen. ***reh$_1$ii̯ós**) 'possessions'. [*IEW* 860 (**rei-*); Wat 53 (**rē-*); GI 650 (**reH(i)-*); Buck 11.41; BK 596 (**riy-/*rey-*)]. Lat *rēs* 'thing, affair, circumstance; possessions, wealth; business matter; law-suit', Umb *ri esune* 'sacred things', Av *raēvant-* 'rich, splendid, ostentatious', OInd *rayí-* (nom. *rayíḥ*, gen. *rāyás*) 'possession, wealth', *Rayí-* (deity personifying

wealth), *ā-rāy-a-* (< **n̥-reh₁i̯-o-*) 'scant, poor, meager'. Distribution strongly suggests PIE status. From **reh₁-* 'give, bestow' which occurs only in Indo-Iranian: Av *rā-* 'grant, concede, vouchsafe', OInd *rā́ti* 'gives, bestows'.

***lóikʷnes-** '(inherited) possessions'. [*IEW* 669 (**loikᵘ̯o-s*); Wat 36 (**leikʷ-*); Buck 11.61]. ON *lān* 'loan; leased land' (borrowed > NE *loan*), OE *lǣn* 'loan, lease, grant, leased land', OHG *lēhan* 'leased land' (< Proto-Gmc **laihna-*; cf. the verb in ON *ljā* 'lend', OE *onlēon* 'lend', OHG *līhan* 'lend', Goth *leihvan* 'lend'), Av *raēxnah-* 'inheritance, goods', OInd *réknas-* 'inherited possessions'. Distribution confirms PIE status. From **leikʷ-* 'leave over' (e.g., Lat *linquō* 'leave', Grk *λείπω* 'leave'). The semantic development from 'leave' to 'loan' has been problematic and is usually resolved by assuming that the underlying verbal meaning originally embraced the concept of 'to be left wanting, to be deficient', e.g., Grk (Homeric perf.) *λέλοιπα* 'I am left wanting', Av *raēčaya-* 'to make to evacuate', OInd *riktī kr̥-* 'make empty, leave'. This hypothesis then explains the Indo-Iranian forms that denote 'inheritance' not as 'something that one leaves' but rather as 'what has been left vacant by the loss of its owner'. The development in Germanic appears to have involved the notion of 'leaving the use of something to another' which was specialized to mean 'lend'; in early Germanic this lending was limited to property but did not include the lending of money which was culturally foreign to the early Germanic tribes.

?*u̯ósu 'goods'. [*IEW* 1174–1175 (**u̯ēsu-*)]. Luv *wāsu-* 'goods', OInd *vásu* 'wealth, goods, riches, property'. Perhaps independent creations in the two stocks in which they appear (cf. OIr *fō* [< **u̯ósu*] 'goodness, kindness' with the same morphological formation but a different semantic derivation). However, the derivation of a word for 'goods, wealth' from the adjective meaning 'good' is widespread in IE.

See also RICH. [E.C.P., D.Q.A.]

WEASEL

***k̂ormon-** 'weasel, ermine/stoat (*Mustela erminea*)'. [*IEW* 573–574 (**k̂or-men-*); GI 441]. Rheto-Romance *carmún* 'weasel' (a borrowing from Venetic or Illyrian), OHG *harmo* 'ermine', Lith *šarmuō* 'wild cat; ermine, weasel', *šermuō* 'weasel, ermine', Latv *sar̃mulis* 'ermine', *sẽr̃mulis* 'ermine'. A word at least of the northwest of the IE world.

Mustela erminea is found across Eurasia from Ireland to Japan but is absent from the Mediterranean area, i.e., most of Iberia, Italy and Greece. It is known in Kazakhstan, Kyrgyzstan, Tadzhikistan, and south into Afghanistan and northwest India.

?*(hₐ)u̯iselo- 'weasel (*Mustela nivalis*)'. [*IEW* 1134 (**u̯eis-*); cf. Wat 75 (**weis-*); GI 441–442 (**weis-*)]. NIr *fial* 'ferret', NIce *visla* 'weasel', OE *we(o)sule* ~ *wesle* 'weasel' (> NE *weasel*), OHG *wisula*. Probably from **u̯eis-* 'give off an unpleasant odor', though such a designation might better fit the polecat than the weasel, e.g., *foumart* ~ *foulemart* 'polecat' (< *'foul/stinking marten') as opposed to the pine marten (*sweetmart*). It may be that Grk *αἰέλουρος* 'cat', also 'weasel', belongs here as well if it is from **hₐu̯iselo-* + *ouro-* 'tail'. (The usual derivation of *aiolo* + *ouro-* as being 'with waving tail' may be folk-etymological.) Bulg *vlasica* 'weasel', Rus *láska* 'weasel', if < Proto-Slavic **vьlasŭka-* with metathesis from **vьsalŭka-*, perhaps should be put here as well (but see next entry). If the word is restricted to Germanic and Celtic then we have evidence only for a late dialect word of the far west of the IE world. If the Greek and Slavic evidence is admitted, then a word at least of the west and center.

?*lohₓk̂- 'weasel'. Latv *luōss* 'weasel', Rus *láska* 'weasel', Pol *łasica* ~ *łaska* 'weasel', Bulg *(v)lasica* 'weasel', NPers *rāsū* 'weasel'. If all these words belong together and are related by inheritance rather than borrowing, then there is evidence for a word of the center and east of the IE world. The Slavic evidence may show crossing of two originally independent words, **lohₓk̂-* and **(hₐ)u̯isōlo-*.

The weasel is ubiquitous across Eurasia, absent only from Ireland, and is also known in Anatolia, Afghanistan and Chinese Turkistan. Other varieties of weasel, e.g., the Siberian weasel (*Mustela sibirica*), are found in northwest India. The original semantics here are confused. That the Irish term does not yield a meaning 'weasel' is hardly surprising as the animal was not found in Ireland but rather the stoat, which is recognizably large. As the Irish word, however, indicates 'ferret', which is in effect a domesticated polecat, it is probably a late introduction to Ireland. (Ferrets appear to have been deliberately bred to combat rabbits for the past 2000 years and the earliest certain references date to the first century AD.) But the meaning '(domestic) polecat' is perhaps closer to the underlying meaning of **u̯eis-* which does accord much more closely with the polecat, which emits a foul-smelling musk when frightened.

See also MAMMALS; MARTEN; POLECAT. [D.Q.A., J.P.M.]

WEDGE

***dhúbhos** 'wedge, peg'. [*IEW* 268 (**dheubh-*); Wat 14 (*dheubh-*)]. NE *dowel*, OHG (dim.) *tubila* 'peg' (Gmc < **dhubh-i-lo-*), Grk (Hesychius) *τύφος* 'wedge'. The difference in formation suggests that these words may be independent creations from a common root but, if so, that root is nowhere else attested.

See also TOOL. [A.D.V.]

WEEVIL *see* INSECTS

WET

***h₁res-** ~ ***h₁ers-** 'liquid, moisture'. [*IEW* 336 (**rosā-*); Wat 17 (**ers-*); Buck 15.83]. Lat *rōs* 'dew', Lith *rasà* 'dewy, dew covered', OCS *rosa* 'dew', Alb *resh* 'it rains', Av *Raŋha* (rivername, Volga), OInd *rása-* 'liquid, moisture'. An old root noun and solidly reconstructed to PIE.

***m(e)hₐd-** 'become wet, moist, fat'. [*IEW* 694–695 (**mad-*); Wat 38 (**mad-*); Buck 15.83; BK 537 (**mat'-/*mət'-*)]. OIr *maidid* 'breaks, bursts forth, gushes', Lat *madeō* 'to be moist, drip', ON *matr* 'food', OE *mete* 'food' (> NE

meat), OHG *maz* 'food', Goth *mats* 'food' (Germanic forms are all zero-grade **m̥$_a$d-i-* and would reflect a connection to 'food' via the notion of 'to be satisfied, nourished' but other sources place these forms with **mad-* 'meal'), Alb *maj* (dial. *manj*) (< **m̥$_a$dni̯e/o-*)'to feed, fatten (of animals)', *majmë* 'fat, fatty', Grk *μαδάω* 'to be damaged by wetness or humidity, to drip', Av *maδa-* 'alcoholic drink', OInd *máda-* 'alcoholic drink', *mádati* 'boils, bubbles, is glad, gets drunk'. PIE status assured.

***leh$_a$t-** 'wet, moist'. [*IEW* 654–655 (**lat-*); Wat 35 (**lat-*)]. MIr *laith* 'beer, moisture', *lathach* 'mud', OWels *llat* 'slime', ON *leðja* 'loam, dirt', OHG *letto* 'clay', Lith *Lãt-upė* (river name), Latv *Late* (river name). Grk *λάταξ* 'drops', of which Lat *latex* 'a liquid, fluid' is often presumed to be a loan, is obscure and has been supposed to be of substratal origin. Distribution suggests a northwestern IE term.

***reĝ- ~ *reknos** 'moist, make wet'. [*IEW* 857 (**reĝ-*); Wat 54 (**reg-*); GI 587 (**rek'-*); BK 604 (**rak'-/*rək'-*)]. (1) with *ĝ*: Lat *(ir)rigāre* 'to water, irrigate', ON *raki* 'wetness, moisture', perhaps Alb *rrjedh* 'flow, pour' although this has been challenged; (2) with *-no-*: ON *regn* 'rain', OE *reg(e)n* 'rain', *regnian* 'rain' (> NE *rain*), OHG *regan* 'rain', Goth *rign* 'rain', Lith *rõkia* 'drizzle'. Distribution suggests at best a northwest dialectal term.

***teng-** 'to moisten, soak'. [*IEW* 1067 (**teng-*); Wat 70 (**teng-*)]. Lat *tingō* 'moisten', OHG *thunkōn* 'dunk', Grk *τέγγω* 'moisten'. Sparsely attested, possibly late IE.

***u̯eg^w- ~ *ug^w-** 'wet'. [*IEW* 1118 (**u̯eg^u-*); Wat 74 (**weg^w-*); GI 47; Buck 15.83]. ON *vǫkr* 'wet, moist', Grk *ὑγρός* 'liquid, fluid'. Lat *ūvidus* 'wet', although sometimes cited here, is not very plausible; connections have also been proposed with *ūmēre* 'to be humid' from a zero-grade **ug^w-sm-*. Indo-Iranian forms such as Av *uxšyeiti* 'spray', OInd *ukṣáti* 'moisten' are more likely to represent a distinct root associated with the word for 'ox'. Weak case for PIE status.

***u̯elk- ~ *u̯elg-** 'wet'. [*IEW* 1145–1146 (**u̯elk- ~ *u̯elg-*); Wat 76 (**welg-*); Buck 15.83; BK 504 (**wal-/*wəl-*)]. (1) with **-k-*: OIr *folc* 'heavy rain, wet weather', Wels *golchi* 'to cleanse', OCS *vlaga* 'moisture, juice of plants'; (2) with **-g-*: ME *welken* 'wilt', OHG *wëlk* 'wet, moist, mild', OPrus *welgen* 'catarrh', Lith *vìlgau* 'moisten', Latv *valgs* 'damp', *vìlgt* 'become moist', *valgums* 'wetness', OCS *vŭlgŭkŭ* 'wet', Rus *vólgkyj* 'wet'. Aside from the Illyrian river name *Volcos* (in Pannonia), this pair of variants is confined to the northwestern stocks.

***h$_1$u̯es-** 'moist, especially of the ground or plants'. [*IEW* 1171–1172 (**u̯es-*); Wat 78 (**wes-*)]. Umb *vestikatu* 'to offer libation', OE *wōs* 'juice, broth', NDutch *waas* 'layer of mist of fine drops', OHG *wasal* 'moist ground', Latv *vasa* 'forest with wet ground and blue clay', *ievasa* 'moisture, tree sap'. ON *vās* 'trouble, difficulty' (< caused by bad weather) is problematic and unlikely here but modern Scandinavian forms like Danish and Norwegian *os* (< Gmc **wōsa-/*wēsa*) 'stale air, smoke' might fit. Distribution suggests a northwestern term.

?*senh$_x$dhr- 'congealed moisture, slag'. [*IEW* 906 (**sendhro-*)]. ON *sindr* 'metallic slag', OE *sinder* 'metallic slag' (> NE *cinder* whose spelling has been influenced by French *cendre*), OHG *sintar ~ sinter* 'slag, stalactite', RusCS *sjadry* 'clotted (blood)', SC *sëdra* 'lime, slag', Czech *sádra* 'gypsum'. The underlying meaning would seem to be 'hardened or coagulated moisture'. The Slavic forms must derive from **sendrā* (with **d* and not **dh*) or **senh$_x$dhreh$_a$*- The latter form might also underlie Germanic. The limited distribution suggests at best a dialectal term and perhaps a loanword.

??*meh$_a$nos 'wet'. [*IEW* 699–700 (**mā-no-*); Wat 38 (**mā-*)]. OIr *mōin* 'turf', Wels *mawn* 'turf', Lat *mānō* 'flow, drip'. The distribution is both limited and semantically unconvincing.

See also DEW; METAL; RAIN; RIVER. [J.C.S.]

Further Reading

Burrow, T. (1981) Skt *mā* 'to approach, meet, join; (trans.) to bring to'. *BSOAS* 44, 85–104.

WHEAT

***puh$_x$rós** 'wheat (*Triticum* sp.)'. [*IEW* 850 (**pū-ro-*); Wat 53 (**pūro-*); GI 566 (**p^{h}ūr-*); Buck 8.43]. OPrus *pure* 'bromegrass (*Bromus secalinus*)', Lith *pūraĩ* 'winter-wheat', Latv *pūri* 'winter-wheat', OCS *pyro* 'wheat, millet', Rus *pyréj* 'couch grass (*Agropyrum* [= *Triticum*] *repens*)', Czech *pýr* 'couch grass', Slov *pîr* 'spelt', Grk *πυρός* 'wheat', *πυρήν* '(stone of a) fruit'. OE *fyrs* 'furze' (> NE *furze*) is rejected both on account of its meaning 'furze' rather than 'couch grass' and its short rather than long vowel, i.e., < **pr̥si-*. A word limited to the center of the IE world; probably late. It may be that we have a derivative of **pi̯eh$_x$u-* 'strike (down)', but only in Baltic does the latter come to have any agricultural meaning, namely 'mow (grass)'. Another possibility is that we have here a derivative of **peuh$_x$-* 'purify' as '± that which is winnowed' or the like. One might compare Lat *trīticum* 'wheat' from *terō* 'rub, thresh', OIr *cruithnecht* 'wheat' (< *'red stuff for winnowing'), or OCS *pĭšenica* 'wheat' (< *'[grain] for grinding').

***sepit** 'wheat'. Hit *seppit* 'wheat'. Perhaps a PIE word though no known cognates exist outside of Hittite. The suffix *-it* is an unproductive one of PIE age, existing otherwise only in **mélit* 'honey' and **h$_2$élbhit* 'barley'. It is hard to see how such a word was formed any later than PIE times.

***ga/ondh-** 'wheat'. Hit *kant-* '(einkorn-?)wheat', Av *gantuma-* 'wheat', NPers *gandum* 'wheat', Baluchi *gandīm* (< **gandūma-*) 'wheat', Khot *ganama-* (< **gandama-*) 'wheat', OInd *godhúma-* 'wheat', TochB *kanti* (< **gn̥dhii̯om?*) '± bread'. Certainly the Old Indic form is the result of folk-etymological re-analysis into *go-* + *dhūma-* 'cow-smoke' but the differing forms this word takes in Iranian suggests, perhaps, borrowing rather than inheritance. On the other hand, arguing for inheritance might be the apparent derivative seen in the Tocharian B word for '± bread'. Thus it is possible we have a PIE word for 'wheat' attested on the southern and eastern peripheries of the IE world or, as is more usually assumed, a Near Eastern cultural borrowing from some unknown source.

The Archaeological Evidence

The native distribution of wild wheats generally comprised the territory from southeast Europe across Turkey and as far east as Iran (or, in the case of bread wheats, into Central Asia and Afghanistan). Wild wheats occur on Near Eastern sites by the tenth millennium BC and domestic wheat is claimed in Syria by *c* 9000 BC. It also occurs on early Neolithic sites in Turkey and across Europe where it is found in Ireland and Scandinavia by *c* 4000-3500 BC. It is known in Neolithic and Eneolithic cultures along the Dnieper, e.g., the Dnieper-Donets and Sredny Stog cultures, as well as the Bronze Age steppe cultures and it is known in the Caucasus since the Neolithic. From the beginnings of the Neolithic it is also found on sites both in and adjacent to India. Consequently, it is inconceivable that the earliest Indo-Europeans did not possess a word for 'wheat'.

The absence of a clear, widespread cognate term for 'wheat' in IE is remarkable in that, like barley, it represents the earliest and most important of domestic cereals (today it is the primary domestic cereal and accounts for 20% of the world's caloric intake). As the most valuable cereal in terms of nutrition and one that could be prepared in a variety of different ways, it was also generally the preferred food of consumption. The genus *Triticum* is now generally divided into a number of different species, all of which saw early domestication. Like barley, cultivated wheats can be divided into hulled and free-threshing varieties. The hulled varieties retain the pales on the kernel after threshing and required pounding in order to separate the pales from the grain itself. The free-threshing or naked wheats can simply be winnowed after threshing in order to recover the kernels as the pales and glumes will have fallen away. Such distinctions were marked enough that different names were employed for the different classes of wheat in antiquity. Moreover, the cultivated wheats most widely found in the archaeological record included a number of different species. *Triticum monococcum* (einkorn wheat) commonly produced one grain per spikelet and is the earliest of the domesticated wheats. *Triticum turgidum* comprises a number of different wheats, formerly divided into different species. These include emmer and durum wheat. Emmer wheat was generally the principal crop on most wheat assemblages in both southwest Asia and Europe during the Neolithic but it did exist alongside einkorn. A crossing of the domesticated *Triticum turgidum* with the wild cereal *Aegilops squarrosa* produced the primary wheat of today, the bread wheat (*Triticum aestivum*). The two would have encountered each other as domestic wheats moved into the Caspian area and the domesticated bread wheats are found from the fifth millennium BC in the Caucasus and north of the Black Sea and then through the later Neolithic through central and northern Europe. Early IE communities would, therefore, have known a wide variety of wheats (today there are over 17,000 different varieties) and one might presume that they had several names for the various types of early wheats. It is possible that names for some of these varieties are presently concealed under some of our reconstructed terms for 'grain'.

See also AGRICULTURE; BARLEY; GRAIN; PLANTS. [D.Q.A., J.P.M.]

WHEEL

***k^{w}ek^{w}lóm** (pl. ***k^{w}ék^{w}leh$_a$**) ~ ***k^{w}ók^{w}los** 'wheel'. [*IEW* 640 (**k^{u}ek^{u}lo-*); Wat 33 (**k^w(e)-k^{w}l-o-*); GI 622 (**k^{ho}(e/o)k^{h}olo-*); Buck 10.76; BK 317 (**k^w[^{h}]ul-/*k^w[^{h}]ol-*)]. From **k^{w}ek^{w}lóm*: ON *hvēl* 'wheel', OE *hweohl* ~ *hwēol* 'wheel' (> NE *wheel*), *hweogol* 'wheel', MHG *wël* 'wheel', MDutch *wiel* 'wheel' (Gmc shows evidence of both **k^{w}ek^{w}lóm* and **k^{w}ék^{w}lom*, the latter with the stress on the first syllable on the analogy of the original plural), Phryg **κίκλην** 'Ursa Major' (i.e., 'the chariot'), Av *čaxra-* 'wheel', OInd *cakrá-* 'wheel; sun disc'; from **k^{w}ók^{w}los*: Grk **κύκλος** (pl. **κύκλα**) 'wheel; circle, cycle' (< **k^{w}ók^{w}los*), TochA *kukäl* 'wagon', TochB *kokale* 'wagon' (Toch < **k^{w}ok^{w}lós*), *kokalpänta* '± wagon-master' (*kokale* + *päntā-* '± he of the way' from a putative PIE **pn̥th$_2$-eh$_a$-* (cf. **póntōh$_2$s* 'way, path'). Both **k^{w}ek^{w}lóm* (pl. **k^{w}ék^{w}leh$_a$*—less likely is the paradigm **k^{w}ék^{w}lom*, pl. **k^{w}ek^{w}léh$_a$*) and **k^{w}ók^{w}los* appear by their distribution to be early in PIE; the latter is perhaps originally a derivative of the former. From **k^{w}el-* 'turn', i.e., 'the turner'. Formally very similar are Baltic words meaning 'neck' (also < *'the turner'): Lith *kãklas* (< **k^{w}ok^{w}lóm*) 'neck', Latv *kakls* 'neck', and the Lat *poplēs* 'back of the knee'. However, the semantic disparities suggest that these latter forms are independent creations. Also semantically closely related, though morphologically different, are (1) **k^{w}ólos* in OIr *cul* 'wagon' (< **k^{w}olō* dual), Grk **πόλος** 'axis of the celestial sphere', TochB *kele* 'navel; center' (< *'hub'); (2) **k^{w}oles-* in OCS *kolo* (gen. *kolese*) 'wagon' (< **k^{w}oles-*); and (3) **k^{w}elom* in ON *hvel* 'wheel', OPrus *kelan* 'wheel'. The original dual in Old Irish suggests that the primary referent was a two-wheeled cart.

***h$_{2/3}$u̯r̥gis** 'wheel'. [GI 623 (**Hwerĝ^h-*); Puhvel 3: 339–400]. Hit *hurki-* 'wheel' (cf. [acc. pl.] *4 hurkius* 'the Four Wheels' [i.e., part of 'Ursa Major']), TochA *wärkänt* 'wheel', TochB *yerkwanto* 'wheel' (Toch < **h$_{2/3}$u̯r̥gi-u̯n̥to-on-* or **'h$_{2/3}$u̯ērgi-u̯n̥to-on-* 'having a wheel-shape', TochA shows dissimilatory loss of the second **-w-* while TochB shows an inner-Tocharian lengthened grade in the first syllable or Tocharian A shows sporadic but paralleled shortening of the first syllable). Compare also TochB *yerter* 'wheelrim, felloe' < **h$_{2/3}$u̯ērg-tor-*, an agent noun from the same **h$_{2/3}$u̯erg-* 'turn'. The agreement of Tocharian and Hittite suggests great antiquity for this word.

***dhroghós** 'wheel'. [*IEW* 273 (**dhregh-*); Buck 10.46, 10.76; BK 84 (**dar-/*dər-*)]. OIr *droch* 'wheel', Grk **τροχός** 'wheel', Arm *durgn* (< **dhrōghon-*, with metathesis in the first syllable) 'potter's wheel'. From **dhregh-* 'run'. Perhaps independent derivatives in Celtic and Greek. However, the apparent secondary derivative in Armenian may be evidence for a greater antiquity of this whole group in PIE.

***róth$_2$o/eh$_a$-** 'wheel'. [*IEW* 866 (**roto-*); Wat 54 (**ret-*); GI 622 (**rot^{h}o-*); Buck 10.76]. OIr *roth* 'wheel; circle', Wels *rhod* 'wheel', Lat *rota* 'wheel; wagon', OHG *rad* 'wheel', Lith

rātas 'wheel', *rātai* (pl.) 'wagon', Latv *rats* 'wheel', *rati* (pl.) 'wagon', Alb *rreth* (< **rret(i)θë* < **róth$_2$ik̂om*?) 'ring, hoop, tire (for a carriage)', Av *raθa-* 'chariot, wagon', OInd *rátha-* 'chariot, wagon, two-wheeled war-chariot', *ratharyáti* 'rides in a wagon' (and also Late Lat *bīrotis* 'two-wheeled', Lith *dvirātis* 'two-wheeled'). Gaul *petor-ritum* 'four-wheeled wagon' apparently reflects a **-r̥th$_2$o-*. It is possible that TochA *ratäk* 'army' and TochB *retke* 'army' also belong here, reflecting a PIE **roth$_2$ikos*, thus the army would have been the 'chariotry' (in contrast to the 'cavalry'). (The Tocharian words are usually taken to be from an Iranian **rataka-*, cf. NPers *rade* 'series, order', though it should be noted that nowhere in Iranian does this word mean 'army'.) From **reth$_2$-* 'run'. An old PIE word for 'wheel' which, by a natural metaphor, has come to mean 'wagon' or more particularly 'war-chariot' in a number of eastern stocks.

The earliest wheels employed in locomotion (there are also clay discs which have been variously interpreted as models of wheels or spindle-whorls) are tripartite disc wheels. These would be massive block wheels formed usually from three large planks which would be fastened together by mortise and tenon. The exterior shape would be cut into a circle while a nave would be cut out of the middle. Generally, the round nave indicates that it is the wheel rather than the axle that rotates, i.e., a fixed axle; in some areas of Europe the archaeological record shows rectangular naves, suggesting that the axle rotated as well. The earliest wheels in the steppe-land regions measured from 45 to 80 cm in diameter.

See also AXLE; RUN; TOOL; TURN; WAGON [D.Q.A., J.P.M.]

Further Reading

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WHETSTONE

****k̂oh$_x$nos* ~ **k̂oh$_x$inis*** 'whetstone, hone'. [*IEW* 541–542 (**k̂ō-no-*); Wat 32 (**kō*)]. From **k̂oh$_x$nos*: NPers *san* 'hone', OInd *śāṇa-* (with Middle Indic *-ṇ-* for expected **-n-*) 'whetstone, hone', TochB *kāntsā-* 'sharpen' (if < **k̂oh$_x$n-es-eh$_a$-*) (Grk *κῶνος* 'pine-cone, cone', usually put here is rather from **k̂ōsnos* and a derivative of **k̂os-* 'pine'); from **k̂oh$_x$inis*: ON *hein* 'hone', OE *hān* 'hone' (> NE *hone*), Av *saēni-* 'point'; yet another formation is to be seen in Lat *cōs* (gen. *cōtis*) 'whetstone'. These formations are all dialectally limited but they attest the existence of a secure PIE **k̂eh$_x$(i)-* 'sharpen, hone' (preserved as a verb only in OInd *śíśāti* ~ *śyáti* 'sharpens, whets').

The use of a stone for sharpening would extend well back into the Palaeolithic where stones might be employed in sharpening wood, bone or antler points. Stones might also be employed for polishing surfaces by grinding them down, a practice which is attested at least as early as the Mesolithic and was in massive use in the Neolithic with the appearance of the polished stone ax. With the arrival of metals we find our earliest whetstones or hones (some make the distinction as to whether the object being sharpened is large, such as an ax, or small, such as a razor) from at least the third millennium BC onwards.

See also KNIFE; SHARP; TOOL. [D.Q.A., J.P.M.]

WHITE

****h$_2$r̥ĝ-u-* ~ **h$_2$r̥ĝ-es-*** 'white'; ****h$_2$erĝ-n̥t-om*** 'silver'. [*IEW* 64–65 (**ar(e)-ĝ-*); Wat 3 (**arg-*); GI 617 (**Hark̂-*); Buck 9.65, 15.64; BK 403 (**ħar-ak^y-/*ħər-ak^y-*)]. OIr *argat* 'silver', Wels *ariant* 'silver' (< Proto-Celt **h$_2$erĝ-n̥t-om*), Lat *argentum* (< **h$_2$erĝ-n̥t-om*) 'silver', Grk *ἄργυρος* 'silver', *ἀργής* 'white', Arm *arcat* 'silver', Hit *harkis* 'white', Av *ərəzatəm* 'silver', OPers *ardata-* 'silver' (< **h$_2$r̥ĝ-n̥t-om*; zero-grade based on the adjective), OInd *árju-ṇa-* (full-grade based on 'silver') 'light, white', TochA *ārki* 'white', TochB *ārkwi* 'white' (< **h$_2$erĝu-h$_1$en-*). This is the clearest root for 'white' which possessed a zero-grade *u*-stem and *s*-stem adjectives and a full-grade derivative noun for 'silver'. These forms have mutually influenced each other. The root is widely attested and attributable to PIE.

****h$_4$elbhós*** 'white'. [*IEW* 30 (**albho-*); Wat 2 (**albho-*); GI 685 (**alb^{h}o-*); BK 457 (**hal-/*həl-*)]. Lat *albus* (< **h$_4$el-bho-*) 'white', Umb *alfo-* 'white', OHG *albiz* 'swan', OCS *lebedĭ* 'swan', Grk *ἀλφός* (< **h$_x$al-bho-*) 'white leprosy', Hit *alpā-* 'cloud'. Cf. also OPrus *alwis* 'lead', Lith *álvas* 'tin', Rus *ólovo* 'tin' (< 'white metal'). Widespread and old in IE.

****bhelh$_1$-*** 'white'. [*IEW* 118–120 (**bhel-*), 160 (**bhlē-u̯o-s*); Wat 6 (**bhel-*); BK 15 (**bal^y-/*bəl^y-*)]. From **bholh$_1$os*: Wels *bal* 'white-faced', NE *ball* 'horse with white blaze', Goth *bala(n)-* '± shining, gray of body' (said of horses and only attested in Latin writers), Lith *bālas* 'white', Latv *bāls* 'pale', Alb *ballë* 'forehead'; from **bhl̥h$_1$ós*: Grk (Hesychius) *φαλός* 'white', Arm *bal* 'pallor'; from **bhēlh$_1$os*: OE *bǣl* 'fire', OCS *bělŭ* 'white', Rus *bélyj* 'white', OInd *bhālam* 'gleam; forehead'. The pair **bholh$_1$os* and **bhl̥h$_1$ós* may suggest an older paradigm **bhólh$_1$s*, gen. **bhl̥h$_1$ós*. Other formations are seen in Lith *báltas* 'white', Latv *bal̃ts* 'white' (< **bholh$_1$-to-*), OPrus *ballo* 'forehead', Alb *balash* 'a horse with a white spot on its forehead', *balë* 'having a white spot on the forehead (said of horse and sheep)' (< **bholh$_1$-no-*? [+ *-ash*]), Lat *flāvus* (< **bhl̥h$_1$u̯os*) 'blond', *flōrus* (< **bhloh$_1$-so-*) 'bright, gleaming (of flowers)' (if this is not simply a thematic derivative of *flōs* 'flower'), ON *blār* 'blue', OHG *blāo* 'blue' (Gmc < **bhleh$_1$-u̯o-*). The underlying verb is apparently preserved in Lith *bálti* 'grow white, pale'. Widespread and old in IE.

****k̂u̯eitos* ~ **k̂u̯itros*** 'white'. [*IEW* 628–629 (**k̂uei-*); Wat 33 (**kweit-*); Buck 15.64]. ON *hvītr* 'white', OE *hwīt* 'white' (> NE *white*), OHG *(h)wīz* 'white', Goth *ƕeits* 'white', Lith *švitrùs* 'bright', OCS *světŭ* 'light', Av *spaēta-* 'white', OInd *śvetá-* 'white, bright'. Widespread and old in IE.

****pl̥h$_3$-*** 'dull white, pale'. [*IEW* 804–805 (**pel-*); Wat 48 (**pel-*)]. MIr *līath* 'gray', Wels *llwyd* 'gray', Lat *pallidus* (< **pl̥h$_3$-no-do-*) 'pale', ON *fǫlr* 'fallow, dun', OE *fealu* 'fallow, dun' (> NE *fallow*), OHG *falo* 'fallow, dun' (Gmc < Proto-

Gmc **falwa-*), Lith *pìlkas* 'gray', *pal̃vas* 'pale yellow', OCS *plavŭ* 'white', Alb *plak* 'old man', Grk πελιτνός 'gray', πολιός 'gray', Arm *alik'* 'white', Av *pouruša-* 'gray', OInd *palitá-* 'gray'. Distribution indicates PIE status for this word that denotes a paler shade of white.

***bhrodhnós** '± pale'. [cf. *IEW* 136 (**bher-*)]. OCS *bronŭ* 'white, variegated', Rus *brónyj* 'white, variegated', OInd *bradhná-* 'pale red, yellowish, bay'. A word of the center and east of the IE world.

See also Color; Light; Shine; Silver. [M.E.H., D.Q.A.]

WHOLE *see* HEALTHY

WIDOW

***u̯idheu̯ehₐ-** 'widow'. [*IEW* 1127–1128 (**u̯idheu̯ā*); Wat 74 (**widh-ewo-*); GI 661–662 (**wid^heu-*); Buck 2.76; Szem 23]. OIr *fedb* widow', Wels *gweddw* 'widowed', Lat *vidua* 'widow', OE *widuwe* 'widow' (> NE *widow*), OHG *wituwa* 'widow', Goth *widuwō* 'widow', OPrus *widdewu* 'widow', OCS *vĭdova* ~ *vŭdova* 'widow', Rus *vdová* 'widow', Alb *ve* (dial. *vē*) 'widow' (or perhaps a loan from Late Latin), Hit *^SALu(i)dati-* 'widow', Av *viδavā* 'widow', OInd *vidhávā* 'widow'. Derivative: Grk ἠ(ϝ)ίθε(ϝ)ος 'bachelor.' The wide distribution of this word insures its PIE status.

The widow's paramount status is assured by the wealth of cognates from Celtic to Indo-Iranian. It is commonly derived from a root **u̯idh-* 'to be separated' (the same source as found in NE *woods* from their function as boundaries and perhaps extrapolated from a compound **u̯i-dh(e)h₁-* 'put apart') as seen in Lat *dīvidō* 'I divide' (< **dis-u̯i-dhh₁e/o-*), TochAB *wätk-* 'separate, distinguish, decide' (< **u̯i-dhh̥₁-sk̑e/o-*), OInd *ví-dhā-* 'distribute, apportion, bestow'.

Although we can reconstruct a word for 'widow' to PIE, there is no corresponding word for 'widower', which is normally derived from the feminine form, e.g., NE *widower*. It has been argued that as a man might have had more than one wife or was free to marry again, he would not likely remain in an unmarried state long nor did a male having been widowed describe any particular legal position. The existence of a word for 'widow', on the other hand, suggests that after the death of her husband, a woman did occupy a particular status (and contrary to popular belief, she often survived her husband and was not required to commit suttee). There is no reason also to presume that she did not have the option to marry again. As the plight of Pēnelopē in the *Odyssey* indicates, she might be inundated by suitors; similarly, the early Indians recognized bridal self-choice (*svayáṃvara*) where a widowed woman might invite suitors and, perhaps after a contest (cf. again the contest of the bow in the *Odyssey*), announce her own choice.

See also Kinship; Marriage; Wife; Woman. [M.E.H.]

WIFE

***pótnihₐ-** 'wife'. [*IEW* 842 (**potnī*); cf. Wat 52–53 (**poti-*); GI 661 (**p^hot^hnī*); Buck 2.32; Szem 22.3; Wordick 197]. OPrus *wais-pattin* 'wife, mistress', Lith *viešpatni* 'wife', Alb *zonjë* (< **džó-ptniā* < **wītsā-pātniā*) 'mistress of the house', Grk πότνια 'mistress', Myc *po-ti-ni-ja* 'lady, wife', Av *paθnī-* 'mistress', OInd *pátnī-* 'mistress, wife'. At least a word of the center and east of the IE world.

***prih̥ₓéhₐ-** 'wife'. [*IEW* 844 (**prii̯ā-*); Wat 53 (**prī-*); Szem 31.2]. ON *Frigg* (wife of Ōðinn), OE *frige* 'wife', OHG *Frija* (wife of Wuotan), Av *fryа-* 'dear, own', OInd *priyá-* 'spouse'. From **prihₓ-* 'be pleasing, one's own' which, some argue, is derived from **per-* 'house(-hold)' seen in Hit *pēr* 'house', Luv *parna-* 'house'. While the derivatives are of PIE status, the specific semantic correspondences could well have developed independently in the various stocks.

***sm̥-loghos** 'bed-fellow' = 'wife'. [*IEW* 658–659; Buck 2.32]. SerbCS *sulogŭ* 'wife', Grk ἄλοχος 'bed-fellow, spouse'. A word at least of the center of the IE world.

Terms for 'husband' and 'wife' often reflect the general Indo-European terms 'man' and 'woman', but the terms **pótis* and **pótnihₐ-* 'lord' and 'lady' seem to have functioned in this sense more than any other forms, although when combined with the feminine noun **u̯ik̑-* 'settlement, homestead' the terms come to assume a quasi-political sense. It is perhaps significant that **pótis* does have a persistent feminine counterpart in the form of **pótnihₐ-* with a non-productive feminine suffix **-nihₐ-*. An Albanian derivative of this word, *zonjë*, often mistakenly related to the word for woman, **g^wénhₐ*, signifies the mistress of the extended family and usually refers not to the wife of the lord but to his mother! If this situation obtained in IE times, a term for 'married woman' distinct from either the bride or the matriarch would have occurred. By far the commonest term to signify 'wife' is **g^wénhₐ* 'woman', expressing a conception that remains common to this day. Other terms for wife are based on the common roots **prihₓ-* 'love, desire' and the root **h₂u̯edh(hₓ)-* 'lead (in marriage)' which also reflect the status of females in a society practicing virilocal post-marital residence. However, the oft-repeated assertions that IE society was "patriarchal" need to be qualified in light of the evidence that some provisions were made for female roles in the family that did not derive from their marital status alone.

See also Concubine; Kinship; Love; Master, Mistress; Woman. [M.E.H.]

WILD (GOD)

?*rudlos 'the renderer, one who tears apart'. [*IEW* 869 (**rud-ló-*)]. Lat *rullus* (< **rudlo-*) 'rustic, boorish', *Rullus* (personal name), OInd *Rudrá-* (name of a god). From **reud-* 'rend'. This equation is open to challenge in that the name of the Old Indic deity has been also variously explained as the 'howler', e.g., Lat *rudere* 'howl', Rus *rydátĭ* 'cry', OInd *róditi* 'cry'; or 'heaven' or 'earth' as suggested in the dual compound OInd *ródasī* 'heaven and earth'. In Vedic mythology, Rudra is represented as the wild one, associated with chaos, and as an archer firing plague, cf. the Greek Apollō who 'shoots' plague into the Greek forces who have offended his priest. The Vedic

god has been identified with Śiva; alternatively he has been claimed to be the deity of the storm, of the mountains and forests (i.e., the wild lands), the hot season, the leader of dead souls, the divine shepherd, the lord of procreation, vegetation, and fertility. Essentially he seems to be the divinity of wild nature, dangerous, unpredictable, unbound and frightening. Although he has structural similarities with other deities in other IE stocks, there are no grounds for postulating a PIE deity here on purely lexical grounds. Recently, K. Witczak has also proposed that ORus (Novgorod) *Rŭglŭ* (< Proto-Slavic *rŭdlŭ) (a particular god) be put here which would provide a phonological match but, unfortunately, all we have is the name and no attributes by which it might be associated with Rudra.

See also MEDICAL GOD. [E.C.P.]

Further Readings

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WILLOW

*sal(i)k- '(tree) willow (*Salix* spp.)'. [*IEW* 879 (*sal(i)k-); Wat 56 (*sal(i)k-); GI 539–540 (*ś^o(e)lik^h-); Fried 53–57]. OIr *sail* (gen. *sailech*) 'willow', Wels *helyg(en)* 'willow', Lat *salix* (gen. *salicis*) 'willow', ON *selja* (< *salki̯ōn-) 'willow', OE *sealh* 'willow', OHG *salaha* 'willow' (OE/OHG < *salko/eh$_a$-). A word of west of the IE world but it may be associated with the next entry.

*u̯eliko/eh$_a$- 'willow (*Salix* spp.)'. [*IEW* 1140–1141 (*u̯eli-kā); cf. Wat 75 (*wel-); GI 540; Fried 53–57]. OE *welig* 'willow' (> NE *willow*), Myc *e-ri-ka* 'willow', Grk ἑλίκη 'willow'. A word of the west and center of the IE world which may have crossed with *sal(i)k-, e.g., **salk- > *sal(i)k- after *u̯elik-.

*u̯eit- 'willow (*Salix* spp.)'. [*IEW* 1122 (*u̯ei-); Wat 74 (*wei-); GI 540 (*wei-); Fried 53–57]. OIr *fēith* 'some kind of twining plant', Wels *gwden* 'withe', Lat *vītis* 'vine', ON *vīðir* 'willow', OE *wīðig* 'willow', OHG *wīda* 'willow', OPrus *witwan* 'willow', Lith *vytis* 'willow switch', Latv *vĩtuōls* 'willow', Rus *vítina* 'branch', Grk ῑ̓τέᾱ 'willow', Av *vaēiti-* 'willow', OInd *veta-* 'reed'. PIE status.

The first name *salik- was presumably used for the tree willows and is attested in three western stocks, in all cases denoting 'willow'. These are probably cognate with the second set of forms built on *u̯eliko/eh$_a$-, e.g., OE *welig* 'willow'; the alternation of *sw-* (reflected in Greek aspiration), *s-*, and *w-* occurs irregularly elsewhere. The PIE *salik-* may be supported by Anatolian, that is, Hittite words for 'meadow' (*wella*) and 'grass' (*welku*), and one might note the willow's preference for moist meadows and similarities between bush willows, some willow leaves, and tall steppe grasses, but all this remains speculative.

The third 'willow' name, *u̯eit-, probably used for the bush or osier willows, is one of the most widely attested in the PIE lexicon as it is found in nine stocks. In seven of these, the reference is not only to the tree but, by metonymic extension, to withies and diverse objects made from them, notably the felloe (the rim around the wheel beneath the tire). For example, OInd *vetasá-* and Av *vaēiti-* both refer to 'willow' and 'switch' and in two other stocks, Latin and Greek, obviously related words serve for 'willow' and 'felloe' (Lat *vītis* and Late Lat *vitus*). The willow thus represents an intersection between the arboreal semantics and the semantics of technology, particularly one of its best attested parts—the wagon or chariot. Both the main willow names seem to be related to basic verbal roots for 'bend, twist, wind' (*selk- and *u̯ei-). Moreover, an additional weakly attested willow name, *u̯r̥b- (Lat [pl.] *verbera* 'lash', Rus *vérba* 'osier'), may be derived from yet another verbal root for 'bend' and 'twist', *u̯er-.

The willow is a moisture-loving tree found all over Eurasia, particularly along the banks of rivers and streams. In quantity, it was one of the first trees to occupy northern Europe after the retreat of the ice sheets but with the rise of forests, the willow retreated through time from southern Europe although it was still present as a very small part of the overall pollen rain. Botanically, the willows dichotomize into bush willows (e.g., the golden, purple and pussy willows) and the tree willows, which range from six to well over thirty meters in height. Technologically, willow shoots, wood and bark lend themselves excellently to making baskets, fences, felloes and many other artifacts. Taxonomically, one finds a strong tendency for speakers to subdivide the willows; in Russian folk speech, for example, about seven kinds of willows are designated by at least twenty-one names. In light of this, it is hardly surprising that the willow, like many other kinds of trees, has two strongly attested names that variously complement each other, e.g., the contrast in the Germanic and Greek areas.

See also BEND; TEXTILE PREPARATION, TREES; WIND[2]. [P.F.]

WIND[1]

*h$_2$u̯eh$_1$i̯ús 'wind'. [*IEW* 83 (*ue-)]. Lith *vė́jas* 'wind', Av *vāyu-* 'wind', OInd *vāyú-* 'wind'. Whether the Lithuanian form replaced an older *vḗju- is quite uncertain; the form could well be recent, cf. OCS *vějǫ* 'blow (of the wind)'. The Indo-Iranian form, however, could well date from PIE times as it is also the name of a god, i.e., the Vedic Vāyu.

*h$_2$u̯eh$_1$-nt- 'wind'. [*IEW* 82–83 (*u̯ē-nto-s); Wat 73 (*wē-); GI 584 (*Hwent^h-)]. Wels *gwynt* 'wind', Lat *ventus* 'wind', OE *wind* 'wind' (> NE *wind*), OHG *wint* 'wind', Goth *winds* 'wind', Hit *huwant-* 'wind', Av *vāta-* (Gath /*vaata-*/) 'wind', OInd *vā́ta-* (sometimes /*vaata-*/) 'wind', TochA *want* 'wind', TochB *yente* 'wind'. Most forms represent *h$_2$u̯ēntos from *h$_2$u̯eh$_1$ntos (with shortening of *ē) except Indo-Iranian, where the phoneme /*n*/ showed the vocalic allophone [n̥] which became *a* before the loss of the laryngeal. Hittite probably continues *h$_2$uh$_1$-nt-. Distribution assures PIE status.

?*h$_2$eu̯-el- 'wind'. [*IEW* 82 (**au̯(e)-*); GI 584 (**Hw-*]. Wels *awel* 'wind, breath', Grk *ἄελλα* (< **αϝελ-yα*) 'storm'. If the two forms are cognate, they cannot be derived from **h$_2$u-el-* (beside **h$_2$u-eh$_1$-* 'to blow'). Welsh requires a full grade **h$_2$eu̯-* but **h$_2$euh$_1$-* is not known from **h$_2$u̯eh$_1$-*. The forms may thus be unrelated.

***(s)k̑eh$_1$u̯(e)r- ~ *(s)k̑h$_1$u̯(e)r-** 'north wind'. [*IEW* 597 (**k̑ēu̯ero-*); Wat 31 (**kēwero-*)]. Lat *caurus* 'north wind', ON *skūr* 'storm', OE *scūr* 'shower' (> NE *shower*), OHG *scūr* 'storm', Goth *skūra (windis)* 'whirl(wind)', Lith *šiáurė* 'north wind', *šiū́ras* 'cold, northern', OCS *sěverŭ* 'north', SC *sjȅvēr* 'north', Arm *c'urt* 'cold; shower'. Although sometimes taken here, OIr *cūa* 'bad weather' does not exist. Accentuation in Lithuanian and Serbo-Croatian indicate a laryngeal (< **k̑eh$_1$u-*). The Latin form must therefore derive from **k̑h̥$_1$u̯ero-*. The different formations and ablaut point to an old *r*-stem. We find **k̑eh$_1$u̯er* (Slavic), **k̑eh$_1$ur-* (Lith *šiáurė*), **k̑h$_1$u̯er-* (Lat), and **k̑h$_1$ur-* (> **k̑uh$_1$r-*: Lith *šiū́ras*, for **šūras*; Germanic, Armenian). Hence the underlying paradigm is (nom.) **k̑eh$_1$-ur* (*?*k̑eh$_1$-u̯ēr*), (acc.) **k̑h̥$_1$-u̯ér-m̥*, (gen.) **k̑h̥$_1$-ur-ós*? . Germanic and Armenian have **s-*. Distribution suggests at least a word of the west and center of the IE world.

See also Blow. [R.S.P.B.]

WIND²

***sper-** 'wrap around'. [*IEW* 991–992 (**sper-*); Wat 63 (**sper-*)]. Lith *spartas* 'band, ribbon', Grk *σπεῖρον* '(linen) cloth, wrapper, garment; sail cloth, canvass', *σπεῖρα* 'coils; (pl.) twists and coils of net', *σπάρτον* 'rope, cable', *σπάρτος* 'a kind of broom plant used for making ropes and cords', Arm *p'arem* 'enclose, surround'. Not widely attested but well enough so that we probably have a (late) PIE word, perhaps geographically limited to certain "central" dialects.

***(s)pre(n)g-** (Gmc ***brenk-**) 'wrap up, constrict'. [*IEW* 992 (**spereg-*)]. Lith *springstù* 'choke, become choked or obstructed', Latv *spran̄gât* 'cord, constrict', perhaps Grk *σπάργω* 'swathe in swaddling clothes', *σπάργανα* (pl.) 'swaddling clothes'; without the **s-* we have MHG *phrengen* 'oppress', TochAB *prān̄k-* 'restrain oneself, hold back'. These words would all appear to belong together, despite the lack of an exact phonological match. Perhaps a "popular" word subject to a certain amount of phonological deformation. Probably of late PIE status.

***u̯eis-** 'twist, wind around'. [*IEW* 1133–1134 (**u̯eis-*); Wat 74 (**wei-*)]. OE *wār* 'seaweed' (> NE *ware*), Lith *víesulas* 'whirlwind, heavy gale', *výstas* 'corset', *výstyti* 'swaddle, swathe', Latv *vīsts* 'bundle', Rus *víkh(o)rĭ* 'whirlwind', Arm *gi* 'juniper', OInd *véṣa-* 'dress, garb', *veṣṭáyati* 'twines about'. Largely, but not exclusively, eastern in distribution, related to **u̯ei(h$_x$)* 'plait, wattle'. Certainly (late) PIE in date.

See also Turn; Willow; Wine. [D.Q.A.]

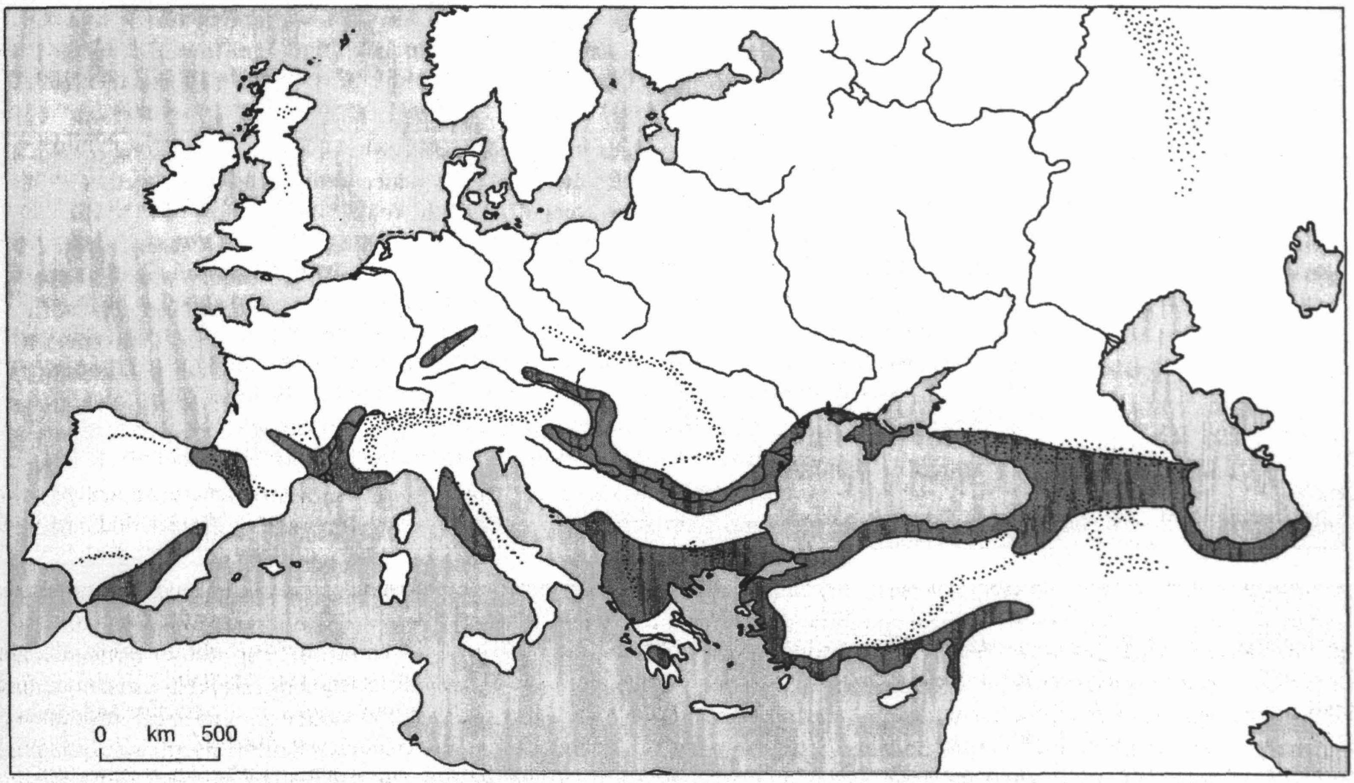
WINE

***u̯óinom** (< ***u̯óih$_1$nom**) ~ ***u̯ih$_1$nom** '?wine'. [*IEW* 1121 (**u̯ei-*); cf. Wat 73 (**vīnum*); GI 557-564 (**w(e/o)ino-*); Buck 5.92]. Lat *vīnum* (< **u̯ih$_1$nom?*) 'wine', Alb (Tosk) *verë* (< **u̯oineh$_a$-*) (Gheg *venë*) 'wine', Myc *wo-no* 'wine', Grk *οἶνος* 'wine', Arm *gini* (< **u̯oin(i)i̯o-* or **u̯ein(i)i̯o-*) 'wine', Hit *wiyana-* 'wine', Luv *wini(ya)-* 'pertaining to wine', HierLuv *wi(y)ana-* 'wine' (Proto-Anat **u̯iyana-*). Similar forms in Germanic (e.g., OE *wīn* (> NE *wine*), OHG *wīn*, Goth *wein* 'wine') and Slavic (OCS *vino*, Rus *vinó* 'wine') are generally taken as loans from Latin *vīnum* although Gamkrelidze and Ivanov have suggested that these are actually cognate with the forms of the other stocks. The presence in Old Church Slavonic of a derived word *vinjaga* 'grape' (whose second part *-jaga* 'fruit' is found in this shape only here) would strengthen the case for inheritance rather than borrowing. The Latin form is also generally regarded as the source of the Celtic words for 'wine', i.e., OIr *fīn*, Wels *gwin* although here too GI suggests that a lengthened zero-grade **u̯īno-* might explain the Celtic forms (and also the Baltic, Lith *výnas* 'wine', Latv *vīns* 'wine', though these may also be loanwords from Slavic and/or Germanic). In any event, this word is thoroughly IE in appearance and plausibly connected with **u̯ei(h$_x$)-* 'twist, wind' (cf. Lat *vītis* 'vine'). The two forms, **u̯óih$_1$nom* and **u̯ih$_1$nom*, would be regular neuter derivatives (whose gender is expected in Proto-Indo-European for fruits and berries and similar edible plant products) of **u̯ih$_1$én* 'grapevine', preserved in Grk (Hesychius) *ὑιήν* 'grapevine' (where Hesychius' spelling is usually taken to represent **ϝιήν*). The fact that the shape of this word bears such a close resemblance to that of Near Eastern words for 'wine', e.g., Hattic *windu-* 'wine', Arabic *wain*, Hebrew *yayin* and that this region is likely to have originated wine production has traditionally thrown the IE correspondences into some doubt although it has also been maintained that the Semitic designations could be derived from an IE source.

***tris-** '± vine'. [*IEW* 1096 (**tris-*)]. SC *trs* (< **triso-*) 'grapevine, reed', Alb *trishe* (< **trisi̯eh$_a$-*) 'offshoot, seedling, sapling', Grk (Hesychius) *θρινία* (< **trisnii̯eh$_a$-*) 'vineyard' (in Crete). SC *tȑs* 'reed' is a different word; the fact that Proto-Slavic shows **triso-* rather than the expected **trišo-* (with backing of original **-s-* after **-r-*, **-u-*, **-k-*, and **-i-*) may suggest a borrowing from some more western IE stock. Known only in the center of the IE world.

The Archaeological Evidence

The domestic grape vine (*Vitis vinifera*) is derived from *Vitis vinifera* subsp. *sylvestris* which, although it possesses smaller and acidic berries, is still capable of being fermented into wine. The distribution of the wild vine would seem to extend across the Mediterranean from Iberia, south France, Italy and Greece, across both the northern and southern shores of Turkey, the Caucasus and beyond the Caspian Sea. Northwards the wild grape can also be found in the southern Ukraine (especially the Crimea) and up the Danube. Finds of *sylvestris* in European Neolithic sites are by no means rare and they have been uncovered in late Neolithic/early Bronze Age Iberia, in the Mesolithic and later in southern France, Italy and Greece, Neolithic Yugoslavia, and Neolithic Turkey.



Wine Distribution of the wild grape (*Vitis vinifera*).

During the Neolithic period further north they have been encountered in the Swiss lake-side dwellings, Neolithic Germany, late Neolithic/early Bronze Age Romania, late Neolithic Moldova (middle and late Tripolye culture). The furthest north grape pips have been discovered in the Neolithic is southern Britain and more surprisingly, a number of impressions of grape pips have been found on Neolithic potsherds from Sweden which would date to *c* 4000 BC. It might be noted that at this time the average summer temperature in Sweden was 2.5C higher than today.

The identification of the domestic vine can be difficult and the date of its earliest attestation is disputed. There does seem to be a consensus that domestic grapes had already appeared as early as the early Bronze Age in the east Mediterranean, i.e., by *c* 3500–3000 BC. On the basis of length to breadth ratios of recovered grape pips, it has been suggested that the domestic vine appeared in Greece as early as the late Neolithic, i.e., *c* 4300–2800 BC, and the discovery of grape pips outside of their natural range in the Levant has suggested domestication as early as *c* 4500–4000 BC. The domestic grape was certainly present in Turkey (Troy), Crete and Greece in the range *c* 3000–2000 BC, including Macedonia where domestic grapes are identified before 2000 BC. The spread of the domestic grape from the east Mediterranean westwards would appear to have been slow and the earliest appearance of domestic grapes (pips) in Italy is *c* 900 BC and they are generally thought to have reached the west Mediterranean through the Greek and Phoenician colonies (although an independent origin in the west Mediterranean has also been suggested) from whence they passed northwards to the Celts who especially prized both wine and the special serving sets and vessels employed in the consumption of wine during the Iron Age. The vine also appears in domesticated form quite early in Baluchistan where there is evidence by the third millennium BC and at the same time in India.

As wine can be manufactured from the wild grape, the reconstructed lexeme need not presuppose that the early Indo-Europeans who possessed this word knew the domestic grape although the latter is possible. The earliest evidence for wine, identified through the presence of tartaric acid as a residue in a ceramic vessel, has been recovered from a Neolithic site in the northern Zagros (Hajji Firuz Tepe, Iran) and dated to *c* 5400-5000 BC. The earliest traces of tartaric acid prior to this discovery were from a vessel at Godin Tepe, Iran, that dated *c* 3500-2900 BC. From the known distribution of the wild grape and the domesticated grape, it would seem that if the lexeme reconstructed to PIE indicated the wild variety, it has neither chronological nor diacritically useful geographical implications for the location of the earliest Indo-Europeans other than relegating a north European origin less likely. If the original sememe is to be reconstructed 'wine (< *domestic grape)' then there is no solid evidence for the referent of the underlying meaning earlier than the fifth millennium BC when the domestic grape first appears in the eastern Mediterranean,

anywhere between Greece and the Levant. Since wine both could and was made from the wild grape, there is an almost endless number of ways that a word for it might have been inherited or borrowed between different IE languages depending on their prehistoric distribution.

See also FERMENT; SACRED DRINK. [D.Q.A.,J.P.M.]

Further Readings

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WING

pet(e)r-* ~ *pet(e)n- 'wing, feather'. [*IEW* 826 (**pet-*); GI 455 (*$p^h et^h$-); BK 45 (*$p[^h]at[^h]$-/*$p[^h]ət[^h]$-)]. OIr *ēn* 'bird', OWels *eterin* 'bird', Wels *edn* 'bird', Lat *penna* (< **pet-n-*) 'feather', ON *fjǫðr* 'feather', OE *feðer* 'feather' (> NE *feather*), OHG *fedara* 'feather', Grk *πτερόν* 'wing', Arm *t'iṙ* as in *t'ṙanim* 'fly', Hit *pittar* ~ *pattar* 'wing'. With the Anatolian cognate, PIE status is assured. From **pet-* 'fly'.

pornóm 'wing, feather'. [*IEW* 850 (**por-no-*)]. OE *fearn* 'fern' (> NE *fern*), OHG *farn* 'fern', Lith *spar̃nas* 'wing', Latv *spàrns* 'wing', Av *parəna-* 'feather', OInd *parṇá-* 'feather'. Cf. OCS *pero* 'feather', TochB (pl.) *parwą* 'feathers'.

See also BIRD; FEATHER. [J.A.C.G.]

WINNOW

neik- 'winnow'. [*IEW* 761 (**neik-*)]. Wels *nithiaf* 'winnow', Lith *niekóti* 'winnow', Latv *niẽkât* 'winnow', Grk *λικμάω* 'winnow', *λίκνον* 'sieve', (Hesychius) *νίκλον* 'sieve' (the Greek forms show various kinds of dissimilation involving the initial **n-*). A technical agricultural term known only in the west and center of the IE world. At least late PIE in date.

See also AGRICULTURE; SIEVE; THRESH. [D.Q.A.]

WINTER *see* SEASONS

WIPE

$h_3$merĝ- 'wipe off' (pres. ***$h_3$mr̥néĝti***). [*IEW* 738 (**merĝ-*); cf. GI 94–95 (**m(e)lk̂'-*)]. Grk *ὀμόργνῡμαι* 'wipe off', Av *marəzaiti* ~ *mərəzaiti* 'strokes', OInd *mr̥ṇákti* ~ *márjati* 'wipes off, purifies'. Though attested only in Indo-Iranian and Greek the exactness of the morphological match, and the archaic present formation that is recoverable, would seem to assure its (late) PIE status.

See also MILK. [D.Q.A.]

WITH

ko(m) 'with, side by side'. [*IEW* 612–613 (**kom*); Wat 32 (**kom*); BK 256 (*$k[^h]am$-/*$k[^h]əm$-)]. OIr *com-* 'with', Wels *cyf-* 'with', Lat *cum* 'with', ON *g-* (verbal prefix), OE *ge-* (verbal prefix), OHG *ga-* ~ *gi-* (verbal prefix), Goth *ga-* (verbal prefix) (Gmc < **ko-* where PIE **k-* has given *g-* in this unstressed syllable), OCS *kŭ* 'toward', Grk *κοινός* 'together, in common' (if < **kom-i̯o-*), OInd *kám* 'toward'. Old in IE.

sek^wo- 'following'. [*IEW* 896–897 (*$sek^{u}o$-s*); Wat 57 (*sek^w-)]. OIr *sech* 'past, beyond', Wels *heb* 'without', Lat *secus* 'after, beside, otherwise', Latv *secen* 'by, along', Av *hača* 'from, out of; in accordance with', OInd *sácā* 'together with', *sākám* 'with'. A derivative of *sek^w- 'follow'. Old in IE.

som- '(together) with'. [*IEW* 903 (**som-*); Wat 57 (**sem-*); BK 184 (**sam-*/**səm-*)]. OPrus *san-* 'with', Lith *sam-* 'with', OCS *so-* 'with', Av *ha(m)-* 'together, OInd *sám-* 'with'. A word of the center and east of the IE world. Derivatives in OIr *samain* 'festival of November 1, Halloween/All Saints', OE *-samne* 'together', OHG *samn* 'together', Goth *samana* 'together, in common', OInd *samaná* 'together'; **sm̥-* by Grassmann's Law: Grk *ἀδελφός* 'brother (of the same womb)', *ἄλοχος* 'partner of one's bed, bedfellow'. From **sem-* 'one'.

ksun 'with'. [*IEW* 903 (**ksu(n)*); Wat 33 (**ksun*)]. Lith *sù* 'with', OCS *sŭ* 'with', Rus *s(o)* 'with', Grk *ξύν* ~ *σύν* 'with, by aid of'. Both Baltic and Slavic appear to have lost the initial **k-* in this (unstressed) form very early; the same loss is seen within the history of Greek. A word of the center of the IE world.

See also ADPREPS. [D.Q.A., C.F.J.]

WITHOUT

$h_1$énh$_1$u 'without'. [*IEW* 318 (**ēneu*)]. ON *ōn* 'without', OHG *āno* (both < *h_1ēnh$_1$u*) 'without', Goth *inu* (< *$h_1$énh$_1$u*) 'without', Grk *ἄνευ* (< *h_1n̥h$_1$éu*) 'without, except, apart from', Oss *ænæ* 'without'.

b(h)eĝh 'without'. [*IEW* 112–113 (**b(h)eĝh*)]. OPrus *bhe* 'without', Lith *bè* 'without; but', Latv *bez* 'without', OCS *bez* 'without', OInd *bahí-* 'outside'. A word of the center and east of the IE world.

See also ADPREPS; APART. [D.Q.A.]

WOLF

$u̯l̥k^wos$ 'wolf (*Canis lupus*)'. [*IEW* 1178–1179 (*$u̯l̥k^{u}os$); Wat 78 (*$wl̥k^wo$-); GI 413 (*$wl̥k^{ho}$-); Buck 3.71]. Lat *lupus* 'wolf' (the form of this word obviously influenced by the word for 'fox'), ON *ulfr* 'wolf', OE *wulf* 'wolf' (> NE *wolf*), OHG *wolf* 'wolf', Goth *wulfs* 'wolf', OPrus *wilkis* 'wolf', Lith *vil̃kas* 'wolf', Latv *vìlks* 'wolf', OCS *vlĭkŭ* 'wolf', Rus *volk* 'wolf', SC *vûk* 'wolf', Alb *ujk* 'wolf', Grk *λύκος* 'wolf', Luv *walwa/i-* 'lion', Lydian *walw-el(i)-* 'pertaining to a lion' (!), Av *vəhrka-* 'wolf', NPers *gurg* 'wolf', OInd *vŕ̥ka-* 'wolf', TochB *walkwe* 'wolf'. A. Lehrman has suggested that PIE *$u̯l̥k^wos$ 'wolf' is a nominalization, with retraction of accent, to an adjective *$u̯l̥k^wós$ '± dangerous' seen possibly in Hit *walkuwa-* '± dangerous' and OInd *avr̥ká-* 'safe' (i.e., *a-vr̥ka-* 'not wild'). The formation would be similar to that seen in OInd *kŕ̥ṣṇa-* 'black antelope' from *kr̥ṣṇá-* 'black' and is paralleled within Indo-European itself by *h_xŕ̥tk̂os* 'bear'. The discrepancy of meaning between Anatolian ('lion') on the one hand and the rest of Indo-European ('wolf') on the other may suggest that the attested meanings are independent semantic narrowings

of an earlier '± dangerous one' that took place after Anatolian had separated from the rest of Indo-European. Alternatively, GI suggest that this word for 'wolf' should be divided **u̯(e)l-k^{w}o-*, a derivative of **u̯el-* 'tear, lacerate'.

***u̯l̥k^{w}īh$_a$-** 'she-wolf'. [*IEW* 1178–1179 (**u̯l̥k^{u}ī*)]. ON *ylgr* 'she-wolf', OHG *wulpa* 'she-wolf', Lith *vìlkė* 'she-wolf', Rus *volčíca* 'she-wolf', OInd *vr̥kī́-* 'she-wolf'. Cf. the similarly derived Grk *λύσσα* 'martial rage, madness, rabies'. A normal feminine derivative, itself of PIE date, of the previous word.

***u̯ailos** 'wolf'. OIr *fáel* 'wolf', Arm *gayl* 'wolf'. Perhaps from **u̯ai* 'woe' as 'the woeful one' (either from the mournful cry or because the animal induces woe in the human). Though not widely attested, the geographical distribution of those attestations strongly suggests PIE status.

***h$_{2/3}$u̯édr̥** (gen. ***h$_{2/3}$u̯édnos**) 'creatures, (wild) animals, wolves'. [cf. GI 413 (*weit'-n-*); Puhvel 3:355]. ON *vitnir* (< **h$_{2/3}$u̯edni̯i̯os*) 'animal; wolf', Hit *huetar* (gen. *huetnas*, pl. *huitār*) 'creatures, (wild) animals, wolfpack'. Though only certainly attested in these two stocks, the archaic heteroclitic stem argues strongly for PIE antiquity. Probably from **h$_2$u̯ed-* 'be alive', otherwise seen only in Luvian. Possibly belonging here too are certain Slavic words for werewolf: Slov *vedanec* (~ *vedomec* ~ *vedavec*) 'werewolf', Ukr *viščun* 'werewolf', OCzech *vědi* (pl.) 'she-werewolves', though particularly in Ukrainian this word has been subject to phonological deformation. The agreement of Germanic and Hittite would seem to assure a reconstructed meaning '(wild) animal' but the association with 'wolf' is obviously very old (as the 'wild animal par excellence'?).

?*dhóh$_a$us (gen. ***dhh̥$_a$u̯ós**) '± wolf'. Phryg *δάος* 'wolf', Grk *θώς* 'jackal; wild dog; panther'. Latin and Greek show a derivative with a new full-grade, **dhéh$_a$u-nos*: Lat *faunus* 'deity of forests and herdsmen' (whose feast was part of the Lupercalia), Grk (Hesychius) *θαῦνον* '± wild animal, beast; the constellation Lupus' (compare the neo-Latin derivative in NE *fauna*). In both Latin and Greek there is at least the possibility that **dhéh$_a$unos* had some reference to wolves. Perhaps a late dialect word in PIE—originally an epithet for wolves or other large carnivores. Often, though not compellingly, related to OCS *daviti* 'strangle'. The latter may better be related to NE *die*, etc.

The wolf (*Canis lupus*) was common throughout Eurasia, including India, and was the ancestor of the domestic dog. It tends to occur on Neolithic sites in small numbers, sometimes in moderate numbers on Baltic sites. Considerable linguistic discussion has revolved around the fact that the name for such a common wild animal shows an *o*-stem, regarded by many as a recent formation (while the feminine form with an *ī*-stem has been regarded as the typical marking of a wild rather than domestic animal). The archaeological evidence makes it clear that no matter where the earliest IE-speakers lived, they were acquainted with the wolf.

The Wolf in Indo-European Belief

The wolf, together with the bear, would be the primary dangerous wild carnivores with whom the Eurasian Indo-European-speaking peoples had to deal, and this beast will be important as an animal enemy, partner, and also image or symbol. IE divinities with lupine associations are not uncommon: the wolfish (*λύκειος*) aspect of the Greek god Apollō seems to connect him both to death and to fertilizing and life-giving powers, in consonance with the other doubled or contradictory aspects of this god, who surely resembles another god with wolf names and companions, the Norse Ōðinn. Following the line of lupine ambiguity, mythic representations of the wolf make the animal both a monstrous, ravening enemy of humankind (the Norse wolf Fenrir, offspring of Loki; *Vǫluspá* str. 36, 39) and a nurturing "natural" mother-beast, such as the wolf-bitch Lupa who suckled the twins Rōmulus and Remus (Lactantius, *Inst.* 1.20.2; Plutarch, *Romulus* 4).

The sign of the wolf (or the wolf-pack) is clear enough in Greek age set confraternities such as the Athenian *ἐφηβεία* and the Spartan *κρυπτεία*: the adolescents in these peer-groups prepared for full warriorhood by behavior that was exactly reversed from the norm: they prowled at night, were hidden and covert in their actions, used trick, trap, stratagem and ambush and all the techniques forbidden to the true adult warrior-hoplite, in his daylight discipline. However, these young warriors-in-training eventually would be reintegrated into their societies, while a "wolfish" activity or character, from Hittite times on (but especially well illustrated in the Germanic sources) defined an outlaw, one whose crimes had put him outside society, and who can be hunted like the wolf, i.e., be both "killer" and "to be killed"; cf. Germanic *warg*. Werewolf or man-wolf activity may not be simply solitary, as shown by a widely-recurring belief in destructive, night-roaming bands or confraternities of lycanthropes who had abjured the laws of society. These "secret bands" have also been connected to the German *Wilde Jagd* or *Wutende Heer*, legendary affiliates of Death and the Devil, and instances of bloodthirsty and destructive werewolf bands are also known in the Iranian sources and in Baltic and Slavic folklore.

The wolf-image ordinarily would be attached to the aggressive second function warrior but what might be called wolf-kings are also seen: Lykos or 'wolf' was a king-name in ancient Thebes; Sigmund and his son (in *Vǫlsunga saga*) took their lycanthropic posture and powers from wolves' skins once worn by two shape-changing princes (*konungasynir*, *Vols.* c 8) while the violent war-king of Norway, Harald *lūfa*, himself showing a near-berserk image, had his own berserker band of Wolfskins, *Ūlfhēðnar* (*Heimskringla* 19).

In the heroic-epic literature the isolated individual returns, and the wolf may often be imitated by the hero, no more so than in that saga just mentioned where Sigmund and Sinfjǫtli roam (and kill) as wolf-men and lurk in an underground den. In an "historical" saga such as that of Egil Skallagrīmson, the wolf not only seems to be a family totem (the family's patriarch named Kveld-Ūlfr or Evening Wolf; Egil himself as *ūlfgrār* 'wolf-gray'), is also associated with the god Ōðinn, to whose

grim service at least some of Egil's family is devoted. Ōðinn's wolves, according to the verses of Egil and other warrior-skalds, are fed with those who are slain by the victorious fighter, but Ōðinn is also named the 'wolf-killer': he finally claims the warrior, who also is the wolf, and who will be killed in his turn.

See also **Age Set**; **Crime**; **Dog**; **Hell-hound**; **Mammals**; **Warrior**. [D.Q.A., J.P.M., D.A.M.]

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WOMAN

***g^{w}énh$_{a}$** (gen. ***g^{w}néh$_{a}$s**) 'woman'. [*IEW* 473–474; (**g^{u}ĕnā*); Wat 25 (**g^{w}en-*); GI 660–661 (**k'^{o}en-*); Buck 2.22; Szem 22.1; Wordick 194–195; BK 347 (**k'^{w}an-/*k'^{w}ən-*)]. OIr *ben* (gen. *mnā*) 'woman, wife', OE *cwene* 'woman, female serf, prostitute' (> NE *quean*), OHG *quena* 'wife', Goth *qinō* 'wife' (Gmc < **g^{w}eneh$_{a}$-n-*), OPrus *genna* 'wife', OCS *žena* 'wife', Rus *žená* 'wife' (Balto-Slavic < **g^{w}eneh$_{a}$-*), Grk *γυνή* 'wife', Arm *kin* 'wife', Hit ^{SAL}*-ni* 'women', Luv *wanatti- ~ unatti-* 'women', Av *gnā-* 'wife of a god', *gənā- ~ ǰnā-* 'woman, wife', *ǰaini-* 'woman', NPers *zan* 'woman', OInd *gnā́-* 'goddess, divine female', *jáni-* 'woman, wife', TochA *śäṃ* 'woman', TochB *śana* 'woman' (Toch < **g^{w}en-eh$_{a}$-*) 'woman'. With lengthened grade **g^{w}ēni-* we have ON *kvæn* 'wife', OE *cwēn* 'woman; wife, consort' (> NE *queen*), Goth *qēns* 'wife', Av *ǰāni-* 'wife', OInd *jā́ni-* 'wife'. Another derivative is seen in TochA *k$_{u}$li* 'woman', TochB *kliye* 'woman' (< **g^{w}n̥h$_{a}$-h$_{1}$en-* with dissimilation of *l...n < n...n*). Archaic in morphology, widespread and old in IE.

In many primitive societies an adult's marital status is taken for granted and distinctions between man and woman on the one hand and husband and wife on the other are rarely made. The most common Indo-European term for an adult marriageable female is **g^{w}énh$_{a}$* whose ablauting stem vowels suggest an original athematic noun. Szemerényi has attempted to derive this noun from **g^{w}ou-* 'cow' (> **g^{u}-en-*) and has produced many examples from both modern languages, e.g., Rus *koróva* 'cow' can also mean 'bride' in some dialects, and many ancient examples, e.g., OInd *vaśā́* 'cow; wife', MWels *anneir* 'young cow' but OIr *ainder* 'young girl', to illustrate that such a derivation would probably not have been seen as gratuitously insulting in a pastoral economy (rural Texas ranchers even today can refer to wives and sweethearts as 'heifers' and remain unslapped; cf. also 'filly'). Nevertheless, the phonology of such a derivation is questionable and the morphology of such an *ad hoc* suffixation is unscientifically opaque. It is far better to take **g^{w}énh$_{a}$* as an unanalyzable root in PIE.

See also **Widow**; **Wife**. [M.E.H.]

WOOD *see* TREE

WOODPECKER

?*(s)p(e)iko/eh$_{a}$- '(some kind of) bird, (Italic, Germanic) wood-pecker'. [*IEW* 999 (**(s)piko-*); GI 459 (**(s)p^{h}ik^{h}o-*)]. Lat *pīcus* 'woodpecker', *pīca* 'jay; magpie', ON *spætr* 'woodpecker', OHG *speh* 'woodpecker', OPrus *picle* 'fieldfare', OInd *piká-* 'Oriental (*Cuculus saturatus*) or Indic cuckoo (*Cuculus canorus*)'. In spite of the uniqueness of this bird and its dramatic behavior, there seems to be no common IE word for the woodpecker although this is the meaning in the two west IE stocks that preserve this root. It might be noted that the Picenes, one of the ancient peoples of Italy, derive their name from this root, allegedly because of some totemic association.

See also **Birds**. [J.A.C.G.]

WOOL

***u̯l̥h$_{2}$neh$_{a}$-** 'wool'. [*IEW* 1139 (**u̯l̥̄-nā*); Wat 76 (**welə-*); GI 498–499 (**Hwl̥-n-*); Buck 6.22]. Wels *gwlân* 'wool' (whence OIr *olann*), Lat *lāna* 'wool', *lānūgō* 'down', OE *wull(e)* 'wool' (> NE *wool*), OHG *wolla* 'wool', Goth *wulla* 'wool', OPrus *wilna* 'shirt', Lith *vìlna* 'wool', Latv *vil̃na* 'wool', OCS *vlŭna* 'wool', Rus *vólna* 'wool', Grk *λῆνος* 'wool', Hit *hulana-* (by metathesis < **ulhna*) 'wool', Av *varənā* 'wool', OInd *ū́rṇā-* 'wool'. Widespread and old in IE.

Although wool is the commonest secondary product of sheep raising in historical times, it would not have been a property of wild sheep nor the earliest domestic sheep. These were characterized by fleeces which consisted of a short fine undercoat that was covered by a hairy outer coat of coarse kemps, all of which moulted each spring. Consequently, the utility of wool as a fabric for textiles would have been exceedingly limited and all evidence for Neolithic wool has been disputed (Neolithic textiles are almost invariably made of plant fibre). Woolly sheep appear to have been bred in the Near East by the fourth millennium BC, possibly earlier. It is about this time that a larger variety of sheep begins to appear in Europe which some suggest may have borne a much woollier coat, and wool begins to be recovered from European sites at about 3000 BC. That wool was important in Bronze Age Europe is well attested, particularly in the Linear B tablets where the raising of sheep for wool appears to have been a major industry. Moreover, from about 4000–3000 BC, there is a rise in the relative quantity of sheep on European sites. While it is possible that "wool" was produced and exploited

earlier in the Neolithic period, i.e., from the seventh millennium BC onwards, the archaeological evidence, the existing evidence of words for 'wool', and the technology employed in its exploitation all suggest a rather late, i.e., fourth millennium BC, date for PIE 'wool'.

See also HAIR; SHEEP; TEXTILE; TEXTILE PREPARATION. [D.Q.A., J.P.M.]

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WORK

***u̯erĝ-** 'work' (pres. ***u̯r̥ĝie/o-**). [*IEW* 1168 (**u̯erĝ-*); Wat 77 (**werg-*); Buck 9.12, 9.13]. ON *yrkja* 'work, do', *orka* (< **u̯r̥ĝeh$_a$-*) 'be able to do', OE *wyrcan* 'work, do' (> NE *work*), OHG *wurchen* 'work, do', Goth *waúrkjan* 'work', Grk *ῥέζω* ~ *ἔρδω* 'do' (in both cases the *-e-* is the result of contamination with the vowel of the derived noun), Av *vərəzyeiti* 'works', TochA *wärkṣäl* 'power, strength, energy', TochB *warkṣäl* 'power, strength, energy'. Cf. the widespread derivative **u̯érĝom* in Gaul *vergo-bretus* the highest official among the Haedui, OBret *guerg* 'effective', ON *verk* 'work', OE *weorc* 'work' (> NE *work*), OHG *werk* 'work', Grk *ἔργον* 'work', Arm *gorc* (with secondary *-o-*) 'work', Av *varəza-* 'activity'. Widespread and old in IE.

***$h_x$ópes-** (noun) 'work'. [*IEW* 780 (**op-*); Wat 46 (**op-*); GI 137 (**H_3op^h-*); Buck 9.12]. Lat *opus* 'work' (whence the denominative verb *operor* 'work'), Av *-apah-* 'work', OInd *ápas-* 'work', TochA *opṣäly* '(fit) season, time of action', TochB *ekṣalye* '(fit) season, time of action' (Toch < **$h_x$ops-el-i-*). Cf. ON *efna* 'work, make', *efni* 'stuff, tool', OE *efnan* ~ *æfnan* 'work, make', OHG *uobo* 'peasant', *uoben* 'set to work'. Widespread and old in IE. Perhaps related to **$h_2$op-* 'wealth'.

***derh$_a$-** 'work' (pres. ***dr̥h$_a$ie/o-**). [*IEW* 212 (**derə-*); BK 122 (**t'ar-aḥ-/*t'ər-aḥ-*)]. Lith *dar(i)aũ* 'do, make', Latv *darīt* 'do, make', Grk *δράω* 'make, do', *δρηστήρ* 'worker, servant', (Hesychius) *δράνος* 'work'. A word at least of the center of the IE world.

***dheiĝh-** 'work clay, smear; build up' (pres. ***dhéiĝhti** ~ ***dhinéĝhti**). [*IEW* 244–245 (**dheiĝh-*); Wat 13 (**dheigh-*); GI 43, 95 (**deig^h-*); Buck 5.53]. OIr *con-utainc* (**com-uss-ding-*) 'builds', Lat *fingō* 'fashion', ON *deigr* 'dough', OE *dāg* 'dough' (> NE *dough*), OHG *teig* 'dough', Goth *daigs* 'dough', *digan* 'knead, form out of clay', Lith *diẽžti* 'whip, beat', Latv *diezêt* 'talk into buying', Rus *děža* ~ *dežá* 'kneading trough', Thracian *-δίζος* 'fort', Grk *τεῖχος* 'wall', Arm *dizanem* 'heap up', Av *pairi-daēzayeiti* 'build a wall around' (whence NE *paradise*), OInd *déhmi* 'smear, anoint', *dehī́* 'wall', *deha-* 'body', TochAB *tsik-* 'fashion', TochA *tseke* 'figurine'.

?*maĝ- 'work with the hands, form, shape'. [*IEW* 696–697 (**maĝ-*); Wat 38 (**mag-* ~ **mak-*); Buck 9.11; BK 548 (**mak'-/*mək'-*)]. MIr *maistred* (< **magistr-*) 'act of churning', Wels *maeddu* (< **mag-ed-*) 'beat, strike', OE *macian* 'make' (> NE *make*), OHG *mahhōn* 'make', OCS *mazati* 'anoint, smear', Grk (aor. pass. inf.) *μαγῆναι* 'knead', Arm *macani-* 'stick to, adhere to'. Numerous uncertainties concern this form. Since, in Irish, all other words for butter-making are borrowed from Latin, it is possible that *maistred* is borrowed as well; the term itself may be a Gallo-Roman form produced by the contamination of *mastra* < Grk *μάκτρα* 'kneading trough' with *magis* < Grk *μαγίς* 'kneaded dough'. The Germanic forms seem to be fairly far removed semantically. The Armenian form may come from this root but may also derive from **mad-* 'curdle'.

See also MAKE; PRESS; SMEAR; WALL. [D.Q.A.]

WORLD

?*bheuh$_x$tlom '?world'. [*IEW* 147 (**bhū̆tlo-*); Wat 8 (**bheuə-*); BK 8 (**buw-/*bow-*)]. OE *bold*, *botl* 'house', Lith *bũklà* 'habitation', OInd *bhavítram* '?world'. From the root **bhuh$_x$-* (**bhh$_x$u-*) 'to be, exist, become' there are many words for 'habitation, dwelling, house' which, in a wider sense, may indicate the meaning 'world' (the place where we dwell, cf. Alb *botë* 'earth, bottom, world'). But even for the Old Indic word this meaning is uncertain. In the sense of '(all) living things' we find expressions like Umb *dupursus peturpursus*, Grk *δίπους τετράπους*, OInd *dvi-pád-cátuṣ-pad-* 'two- and four-footers', a type which is of PIE date.

See also BE; EARTH [R.S.P.B.]

WORM

***k^{w}r̥mis** 'worm, insect'. [*IEW* 649 (**k$^{u̯}$r̥mi-*); Wat 34 (**k^{w}r̥mi-*); GI 445 (**k^{ho}r̥mi-*); Buck 3.84; BK 332 (**k^w[^{h}]ur-/*k^w[^{h}]or-*)]. OIr *cruim* 'worm', Wels *pryf* 'worm', OPrus *girmis* 'maggot, mite', Lith *kirmìs* ~ *kirmuõ* ~ *kir̃minas* 'worm; snake, dragon', *kirmėlė* 'worm, maggot', Latv *cirmis* ~ *cirmen(i)s* 'worm, mite, maggot, caterpillar', OCS *čr̥vĭ* 'worm' (< **čĭrmĭ*, cf. *črŭmĭnŭ* 'red' [color made from certain insects]), Rus *čérvi* 'worm', Slov *čȓn* 'carbuncle', Alb *krimb* 'worm', NPers *kirm* 'worm', Oss *kalm* 'snake, worm', OInd *kŕ̥mi-* 'worm, insect; lac (red dye created from certain insects)'. Given the range of meanings of the various reflexes of this word, it is likely that PIE speakers had the category of what semanticists interested in lexical universals call 'wug' (i.e., 'worms' + 'bugs') rather than the more restricted categories of 'worm' and 'bug' (or 'insect') that are more familiar to contemporary English speakers. In any case, widespread and old in IE.

***u̯r̥mis** 'worm, insect'. [*IEW* 1152 (**u̯r̥mi-s*); Wat 76–77 (**wr̥mi-*); GI 445 (**wr̥mi-* ~ **wr̥mo-*); Buck 3.84]. Lat *vermis* 'worm', ON *ormr* 'worm', OE *wyrm* 'worm, snake' (> NE *worm*), OHG *wurm* 'worm', Goth *waúrms* 'worm', Lith *var̃mas* 'mosquito', (dial.) *varmai* (pl.) 'flying ants', OCS *vermije* 'grasshoppers, insects', Grk (Hesychius) *ῥόμος* 'woodworm'. Cf. OPrus *wormyan* ~ *urminan* 'red', Ukr *vermjányj* 'red' (color derived from certain insects or 'worm-colored'). A phono-

logically similar form also appears in a number of IE groups meaning 'ant'. **u̯r̥mis* and these other related forms appear to be a rime-word variant of the previous entry found in the center and west of the IE world.

***demelis** 'worm'. [*IEW* 201 (**demel-*); BK 127 (**t'um-/ *t'om-*)]. Alb *dhemjë* ~ *dhemizë* 'larva, caterpillar, maggot', Grk *δεμελέας* (acc. pl.) 'leeches', (Hesychius) *δεμβλεῖς* (pl.) 'leeches'. A word of the IE center.

***mat-** '± worm, maggot, insect'. [*IEW* 700 (**math-*); Wat 39 (**math-*); Gl 774 (**mat^h-/mot^h-*); Buck 3.84]. ON *maðkr* 'maggot, worm', OE *maða* 'maggot, worm, grub', OHG *mado* 'maggot, worm', Goth *maþa* 'worm' (Gmc **maþōn-*), Arm *mat'il* 'louse', Av *maδaxa-* 'grasshopper', OInd *matkuṇa-* 'bug'. Cf. ON *motti* 'moth, mite', OE *moþþe* ~ *mohþe* 'moth' (> NE *moth*), MHG *matte* 'moth'. The range of meaning and phonological shape for this word is at least as great as for the previous two entries. Nonetheless, it seem tolerably clear that we have a word of PIE antiquity.

See also Animal; Dragon; Insects. [D.Q.A.]

WORSHIP

***i̯aĝ-** 'honor, worship'. [*IEW* 501–502 (**i̯ag-*); Wat 79 (**yag-*); Gl 704 (**yak'-*); Buck 22.15]. Grk *ἅζομαι* 'stand in awe of, dread; shrink from doing something', Av *yazaite* 'honors', *yasna-* 'reverence for the gods', OPers *yad-* 'revere the gods', OInd *yájati* 'worship (through sacrifice)', *yájas-* 'veneration'. A Greek-Indo-Iranian isogloss of late IE antiquity. The semantic difference between the Greek and Old Indic is noticeable in that the Greek indicates a negative response to the deities, i.e., something to be avoided, while the Old Indic verb stresses the active sacrifice made by the priest to the deities on behalf of the people. The underlying meaning seems to have been 'worship, honor' and the object of worship (Av *yazata-*, OInd *yajatá-*) 'he who is worthy of worship' with the Old Indic stressing the active participation sense of 'worship' as 'sacrifice'.

***ti̯eg^w-** 'give way, pull oneself back (in awe)' (pres. ***ti̯ég^we/o-**). [*IEW* 1086 (**ti̯egu̯-*); Buck 22.16]. Grk *σέβομαι* 'worship, honor', *σοβέω* 'frighten off, drive away', Av *iθyejah-* 'abandonment', OInd *tyájati* 'stands back from something', *tanū-tyáj-* 'renouncing life', *tyájas-* 'abandonment, difficulty, danger', *tyajás-* 'offspring', *tyāgá-* 'renunciation of life', *títikṣ-* 'endure, forbear'. Cf. Grk *θεοσέπτωρ* 'worshipper', OInd *tyaktar-* 'renouncer'. A Greek-Indo-Iranian isogloss of late IE antiquity.

***d(h₃)eu-** 'be favorable to, give honor to'. [IEW 218–219 (**deu-/*dou-*); Wat 12 (**deu-*); BK 121 (**t'uw-/*t'ow-*)]. OIr *de(i)n* (< **du̯eno-*) 'strong', OLat *duenos* ~ *duonos* 'good', Lat *bonus* 'good', *beō* 'make happy, gladden; bless', *beātus* 'happy, without want, blessed', *bellus* (< **du̯enolos*) 'pretty, handsome, charming', OInd *dúvas-* 'worship, reverence, oblation, favor, friendship', *duvasyáti* 'honors, recognizes'. Old in IE. This word is usually taken to be an enlargement of **deh₃-* 'give'. Somewhat more distant are OSax *twīthōn* 'grant', MHG *zwīden* 'grant', presupposing a further enlarged pre-Gmc **du̯eit-*.

See also Fear; Honor; Pray; Sacrifice. [D.Q.A.]

WOUND

***u̯olno/eh_a-** (~ ***u̯orno/eh_a-**) '(bloody) wound'. [cf. *IEW* 1144 (**u̯el-*), 1163 (**u̯er-*); Wat 76 (**welə-*); Gl 414 (**wel-*); Buck 4.85; BK 507 (**wal-/*wəl-*)]. Lat *volnus* 'wound, injury; blow', Alb *varrë* (< **u̯orneh_a-*) 'wound, injury, sore', Grk *οὐλή* (< **u̯olnéh_a-*) 'scar'. With different vowel-grades: OCS *rana* 'wound', Rus *rána* 'wound' (< **u̯rōneh_a-*), OInd *vraṇá-* (< **u̯renó-*) 'wound'; with different suffixes: OIr *fuil* 'blood', *fuili* 'bloody wounds', Wels *gweli* 'wound; blood'. There seems to be sufficient overlap of form and meaning to group all of these words together as a single etymon. If so, it is clearly of PIE date. The interchange of **-l-*, in the west, and **-r-*, in the east, is difficult. If the **-r-* is older, the **-l-* might result from a cross with **u̯elh₂-* 'strike, kill, die', but, on the whole, the **-l-* looks more original.

***su̯eros** '(suppurating) wound'. [*IEW* 1050 (**su̯er-*); Buck 4.85]. Wels *chwarren* 'ulcer', OHG *swero* 'body pain', *sweren* 'fester', Rus *khvóryj* 'sick', Av *x^vara-* 'wound'. The initial *khv-*, rather than the expected *sv-*, of Slavic may mean this word was borrowed, or at least influenced, by some Iranian cognate. Sparsely attested but its geographical distribution certainly suggests at least a late PIE date.

?*u̯eh_at- '(suppurating) wound'. [*IEW* 1108 (**u̯ā-*); Buck 4.85; BK 497 (**wah-/*wəh-*)]. Lith *votìs* 'ulcer, abscess, boil', Latv *vâts* 'suppurating wound', Grk *ὠτειλή* (< **u̯oh_at-*) 'wound'. It is probable, but by no means certain, that the Greek and Baltic words belong together. If so, perhaps a "centralism" in late PIE.

***h_aéru(s)-** 'wound'. [*IEW* 338 (**ereu-*)]. ON *ørr* (< **arwi-*) 'scar', OInd *áruṣ-* 'wound'. Though not well attested, the close morphological and semantic relationship of the Germanic and Old Indic words guarantee PIE status, more particularly as there is no underlying verb attested from which these words might be independently derived.

***peles-** 'wound'. [*IEW* 803 (**pel-*); VW 356]. Grk *ἄπελος* '(unhealed) wound', TochA *päl* 'wound', TochB *pīle* 'wound'. Again a word with sparse attestation, and no underlying verb, that is likely to be of late PIE age.

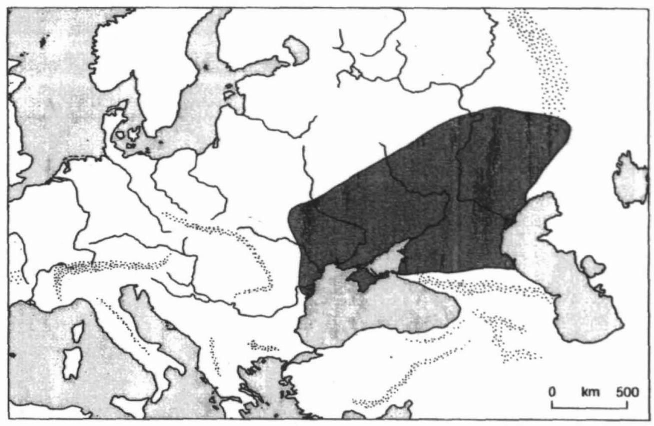
See also Die; Medicine; Sick. [D.Q.A.]

·Y·

YAMNA CULTURE

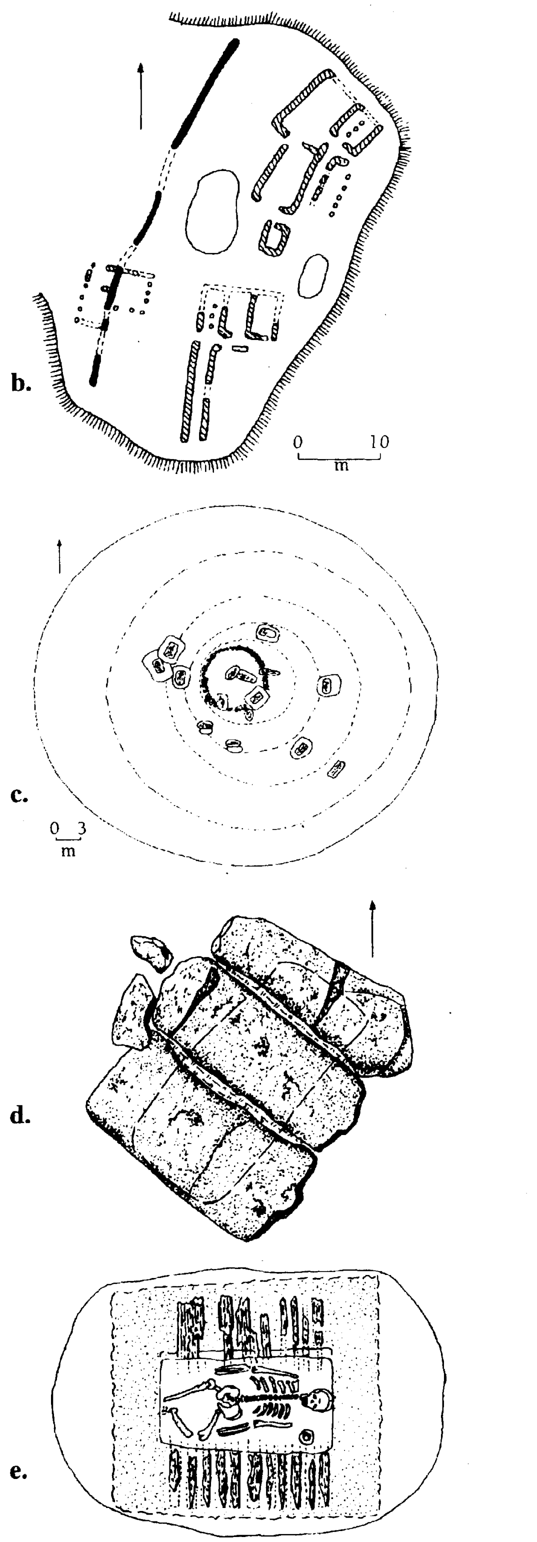
The Yamna or Pit-grave culture or "cultural-historical region" spanned the territory from the Danube to the Ural in the Copper/early Bronze Age, i.e. *c* 3600–2200 BC. Evidence for settlement is scarce, often meager remains from camp sites of pastoral nomads, but it does include a number of stone-built fortresses such as Mikhaylovka where a stone wall some two meters high defended a settlement of stone-built rectangular structures.

The economy of the culture, attested both by faunal remains from settlements and burials as well as site locations, suggests a high dependency on stockbreeding, either cattle or sheep/goat, in many of the regional variants. The horse was also well-known from the Yamna culture and its remains occur not only on settlements but also in rituals associated with burials. Although the emphasis appears to have been on stockbreeding, agriculture was also practiced in the more forested regions or major river valleys and a plow has been recovered from a Yamna grave. It has been argued that the Yamna culture reflects one of the earliest developments of semi-nomadic pastoralism. The evidence for this rests on the Yamna culture's possession of the domestic horse (for riding), wheeled vehicles (for transporting families), the composition of its livestock which was suited to the open steppe, the occasional discovery on Yamna sites of deep steppe animals such as the camel and saiga antelope, and the burials of men, women and children, i.e., whole family units, that have been encountered far out on the steppe. Wild fauna from the Yamna culture include aurochs, red deer, saiga, onager (*Equus hemionus*), wild boar, badger, otter, wolf, fox, corsac fox, hare, beaver; traces of fish and tortoise are also recovered.

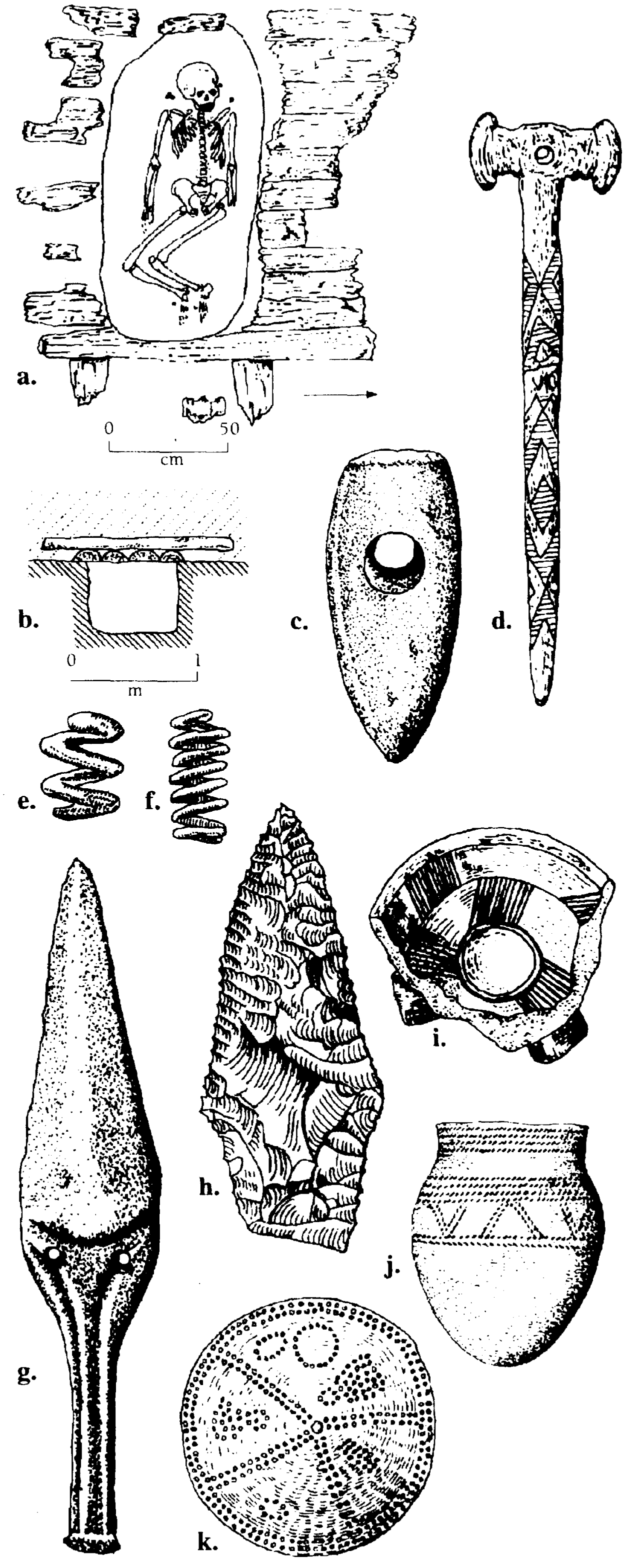


Yamna I a. Distribution of the Yamna culture.

The overwhelming evidence for the Yamna culture derives from its tens of thousands of burials. These were made in shaft-like pits that might be roofed with a timber or stone slab covering. In certain regions, the stone slabs might include anthropomorphic stelae. The deceased were buried either on their backs with their legs flexed (the "Yamna position") or flexed on their sides, with their heads generally oriented east or north-east, at least among the earliest phases. They were frequently covered, in many instances "saturated", with ocher and the Yamna culture has alternatively been known as the Ocher-grave culture. Primary burials were covered with a kurgan (tumulus) although many secondary burials might have been later inserted into the fill of an earlier kurgan or the kurgan itself might have been enlarged to accommodate more burials. Grave goods consisted of pottery, stone tools and very occasionally weapons (flint spearheads, flint and metal daggers, antler ax-hammers), and copper artifacts.



Yamna I b. Plan of Mikhaylovka, Ukraine; c. Plan of Yamna kurgan indicating primary (central) burial, secondary burials and enlargements of the tumulus; d. Anthropomorphic stelae as covering slabs for Yamna grave; e. Yamna burial under timber roof from the Ukraine.



Yamna II a. Detail of Hungarian Yamna burial in timber-roofed chamber; b. Section of Yamna timber-roofed pit; c. Perforated stone ax; d. Hammer-head pin; e. Silver ornament; f. Gold ornament; g. Bronze dagger; h. Flint dagger; i. "Censer"; j. Yamna pot; k. "Solar" motif on bronze disc.

Animal remains (cattle, sheep/goat and horse) are all recovered from graves as well.

Regional studies of the labor involved in the construction of the kurgans have suggested that they may reflect a tripartite social structure and the three social classes of early India have even been explicitly employed in describing the existence of Yamna "priests", "warriors" and "herdsmen". Although there does seem evidence for marked social differentiation, it does not suggest such specific classes.

The origin of the culture appears to lie both with the earlier Khvalynsk culture on the middle Volga and the Sredny Stog culture of the middle Dnieper. With its mobility, expressed both in the use of the domestic horse and wheeled vehicles which were pulled by oxen, the Yamna culture evolved as a vast area of cultural interactions and exchange. To the east, Yamna burials are found to the east of the Urals and some would derive the very distant Afanasevo culture of the Altai and Yenisei from the Yamna and related European steppe cultures. To the west, Yamna burials are found extending beyond the mouth of the Danube through Romania, Bulgaria, Serbia and Hungary.

The enormous area of distribution, its dynamic borders, and cultural life-style (e.g., horses, wheeled vehicles) of the Yamna culture has insured its general recognition as the archaeological reflection of a major group of the early Indo-Europeans. Its specific identification is disputed since models for IE origins diverge considerably in terms of the time and place of dispersal. Within the "Kurgan model", it is seen as a variant of late IE, ancestral to many although not necessarily all IE-speaking groups; those who reject the Kurgan model tend to limit the linguistic identity of the Yamna culture to the Indo-Iranians. The Yamna culture was followed in the west by the Catacomb culture and in the east of its distribution by the Poltavka and Srubna cultures.

See also **Afanasevo Culture; Catacomb Culture; Khvalynsk Culture; Kurgan Tradition; Novotitorovka Culture; Poltavka Culture; Sredny Stog Culture; Srubna Culture.** [J.P.M.]

Further Readings

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YAWN

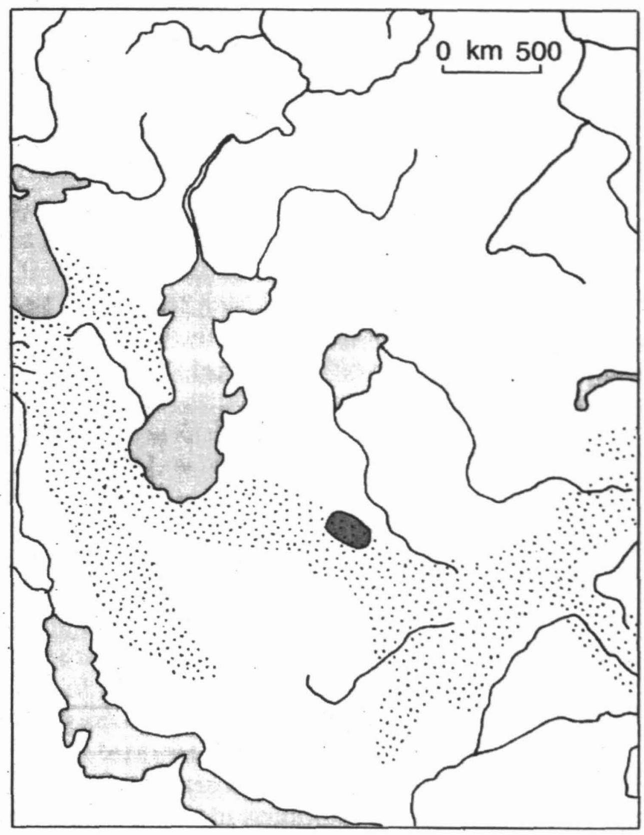
ĝh(h$_1$)i̯-eh$_a$- 'yawn, open the mouth wide'. [*IEW* 419–420 (**ĝhii̯-ā-*); Wat 20 (**ghāi-*); Buck 4.52; BK 234 (**ga-/*gə-*)]. Lat *hiāre* 'yawn, gape', OHG *gīēn* 'yawn', Lith *žióju* 'open, yawn', OCS *zijǫ* 'open the mouth wide', Rus *zijátĭ* 'yawn'. Also **ĝhih$_1$-neh$_a$-*: ON *gīna* 'yawn', OE *gīnan* 'yawn', OCS *zinǫti* 'yawn, split apart, open the mouth', Rus *zínutĭ* 'yawn, split apart, open the mouth' (in Germanic we also find new ablaut grades in OE *ginian* 'yawn, gape', OHG *ginēn* 'yawn', and OE *gānian* 'yawn, gape' [> NE *yawn*], OHG *geinōn* 'yawn, gape'). Finally from **ĝheh$_1$i-u̯-* we have OCS *zějǫ* 'yawn' and TochA *śew-* (**ĝheh$_1$i-u̯-*) 'yawn, gape' and from **ĝhoh$_1$i̯-eh$_a$-* is TochB *kāyā-* 'yawn, gape'. Subject to much morphological rebuilding in the form of different iterative-intensives, but still clearly a PIE word.

gheh$_a$- 'yawn, open the mouth wide'. [cf. *IEW* 411 (**ĝhan-*); BK 234 (**ga-/*gə-*)]. ON *gan* 'yawn; cry, din', Grk **χάνος** 'mouth' (both < **ghh̥$_a$nos*), Grk **χάσκω** 'yawn', **χανύω** 'talk with the mouth open', and words for the 'open mouth' (see **gheh$_a$mr̥* s.v. 'mouth'). Distinct from and not as widespread as the previous word, it is still of respectable PIE antiquity.

See also **Mouth; Sleep.** [D.Q.A.]

YAZ CULTURE

The Yaz culture was the early Iron Age culture of Bactria and Margiana. It is dated to *c* 1500–1100 BC. Settlements emerge on top of earlier late Bronze Age sites or virgin ground; they sometimes exhibit stone towers and sizeable houses



Yaz Distribution of the Yaz culture (commonly associated with the culture depicted in the *Avesta*).

which are associated with large irrigation systems. Single manor complexes consisting of living and store rooms and open courtyards have also been uncovered. Ceramics were initially almost entirely hand-made but through time there was increasing use of wheel-thrown ware. The most frequent evidence of metal tends to be bronze arrowheads; sickles or carpet knives are also found. No burials assigned to the culture have been found.

With respect to location, date and a settlement type which may represent early Iron Age farmer-chieftains, the Yaz culture has been regarded as a likely archaeological reflection of east Iranian society as depicted in the *Avesta*. The marked absence of burials has also been interpreted as evidence for the Zoroastrian method of disposing of the dead through exposure rather than burial.

See also INDO-IRANIAN LANGUAGES. [J.P.M.]

YEAR

u̯et- 'year'. [*IEW* 1175 (**u̯et-*); Wat 78 (*wet-*); GI 685 (**wet^{h}o-*); Buck 14.73; BK 503 (**wat[^{h}]-/*wət[^{h}]-*)]. MIr *feis* 'sow', Corn *guis* 'sow' (Celtic < *'yearling'), Lat *vetus* (< **u̯et-es-*) 'old', ON *veðr* 'ram, wether', OHG *widar* 'wether', Goth *wiþrus* 'year-old lamb', Lith *vētušas* 'old', OCS *vetŭchŭ* 'old', Alb *vit* (< **u̯etōs*) 'year', *vjet* 'last year', Grk *(ϝ)έτος* 'year', Hit *witt-* 'year', Sogd *wṭšnyy* 'old', OInd *vatsá-* ~ *vatsará-* (with same suffix as Germanic < **wet-ro-*) 'year', *vatsá-* 'yearling'. With a wide geographical distribution and morphological derivatives common to several stocks, this root is certainly of PIE date.

(h$_1$)i̯ēro/eh$_a$- 'year, new season'. [*IEW* 296 (**i̯ēro-*); Wat 79 (**yēr-*)]. Lat *hōrnus* (< **hō-yōr-*, with same formation as in *ho-diē* 'today') 'of this year', ON *ār* 'year', OE *gēar* 'year' (> NE *year*), OHG *jār* 'year', Goth *jēr* 'year', OCS *jara* 'spring', RusCS *jara* 'spring', Grk *ὥρος* 'time, year', Luvian *āra/i-* 'time', Av *yārə* 'year', TochB *ñerwe* (< **(h$_1$e)ne-* [a demonstrative] + *i̯ēr-* + [the adjective-forming suffix] **-u̯o-* 'today'). A remote connection with **h$_1$ei-* 'to go' is likely, paralleling the formation of **h$_a$etnos* 'year' from **h$_a$et-* 'to go'. A good candidate for PIE status.

perut- 'last year'. [*IEW* 1175 (**u̯et-*)]. OIr *ōn nurid* 'from the last year', ON *fjorð* 'last year', Grk *πέρυσι* 'last year', Arm *heru* 'last year', OInd *par-ūt* 'in past years'. This root appears to be an old locative or accusative of the zero-grade of **u̯et-* 'year' prefixed with **per-* 'forward, through'. Probably PIE in date.

h$_a$etnos 'year'. [*IEW* 69 (**at-*); Wat 4 (**at-*); Buck 14.73; BK 366 (**at[^{h}]-/*ət[^{h}]-*)]. Lat *annus* (< **atnos*) 'year', Umb (acc. pl.) *acnu* 'years', Goth (dat. pl.) *aþnam* 'year'. **h$_a$etnos* is a nominal form derived from the root **h$_a$et-* 'to go' (cf. OInd *átati* 'he/she goes'). Geographically restricted to a few western languages and clearly derived semantically as 'the period gone through, the revolving year'; a "westernism".

h$_1$en- 'year'. [*IEW* 314 (**en-*); Wat 17 (**en-*); Buck 14.73; BK 424 (**an^y-/*ən^y-*)]. Goth *fram fair-n-in jēra* 'in the last year', Lith *pér-n-ai* 'in the last year', Latv *pḗrns* (< extended form **per-h$_1$no-yo*) 'of last year', Rus (dial.) *lo-ni* 'of last year', Grk *ἔνος* 'year'. Limited distribution suggests dialectal IE.

See also SEASONS; TIME. [P.B.]

YELLOW

ĝhel- ~ ***ghel-*** 'yellow'. [*IEW* 429–430 (**ĝhel-*); Wat 21 (**ghel-*); GI 618 (**ĝ^{h}el-*); Buck 15.69; BK 228 (**gil-/*gel-*)]. OIr *gel* 'white', Wels *gell* 'yellow', Bret *gell* 'brown', Lat *helvus* (< **ghel-u̯o-*) 'honey yellow', *fel* 'gall', ON *gulr* 'yellow', *gall* 'yellow', OE *geolu* 'yellow' (> NE *yellow*), OHG *gelo* 'yellow', Lith *geľtas* 'yellow', *želvas* 'golden', Latv *zęlts* 'gold', OCS *zelenŭ* 'green', *žlŭtŭ* 'yellow', Rus *zelënyj* 'green', Grk *χλωρός* 'green', *χόλος* 'gall', Av *zairi-* 'yellow', *zāra-* 'gall', OInd *hári-* 'blond, yellow'. When, in post-Indo-European times, 'green' and 'blue' became distinct from one another, words for 'yellow' were often sources for new words for 'green'. This root is recorded from Celtic to Indic and is assured in Proto-Indo-European. This also argues that the Proto-Indo-Europeans recognized YELLOW as a primary color and hence had at least a Stage III color system.

See also COLOR; GREEN; WHITE. [M.E.H.]

YESTERDAY

(dh)ĝhi̯es 'yesterday'. [*IEW* 41 (**ĝhđi̯és*); Wat 14 (**dhgh(y)es-*); Buck 14.49]. OIr *indē* 'yesterday', Wels *doe* 'yesterday', Lat *herī* 'yesterday', ON *ī gær* 'yesterday', OE *geostra* 'yesterday' (> NE *yester*), OHG *gesteron* 'yesterday', Goth *gistra-dagis* 'tomorrow' (Gmc < suffixed comparative **ĝhi̯es-ter-*), Alb *dje* 'yesterday', Grk *χθές* 'yesterday', Av *zyō* 'yesterday', OInd *hyá-* 'yesterday'. The etymological basis of Goth *gistra-dagis* is puzzling; we have no PIE word for 'tomorrow' (utilizing mostly forms like 'in the morning' for that purpose). However, **(dh)ĝhi̯es* 'yesterday' is definitely PIE.

See also DAY; TIME; TODAY. [P.B.]

YEW

h$_1$eiu̯os 'yew (*Taxus baccata*)'. [*IEW* 297 (**(e)i-u̯o-*); Wat 16 (**ei-*); GI 540–542 (**ei-wo-*); Fried 121–125]. OIr *eō* 'yew', *ibar* 'yew', Wels *ywen* 'yew', ON *ýr* 'yew', OE *īw* 'yew' (> NE *yew*), OHG *īwa* 'yew', OPrus *iuwis* 'yew', Lith *ievà* 'bird cherry', Latv *iẽva* 'bird cherry', OCS *iva* 'willow', Rus *íva* 'willow', Hit ^{GIŠ}*e(y)a(n)-* '?yew'. If Hittite is allowed, PIE status.

taksos 'yew (*Taxus baccata*)'. [*IEW* 1059 (**tek^u-*); cf. Wat 69 (**tek^w-*); cf. GI 541; Fried 125–129]. Lat *taxus* 'yew', Rus *tis* 'yew', Grk *τόξον* 'bow', Scythian *taxša* 'bow', MPers *taxš* 'bow'. At least late PIE status but irregularities in the vowel correspondence are striking.

The first term is well supported by a half-dozen or more languages each in Germanic and Slavic, all of which denote 'yew'. The yew figured in early Germanic legal and ritual symbolism, e.g., the judge's staff, perhaps because of its special properties such as truly extraordinary longevity. Regular phonological correspondences between these cognates permit us to posit a central dialectal feminine *o*-stem, **h$_1$eiu̯os*. But

the central dialectal forms have another cognate in distant Hit *eyan*, which appears in ritual and legal texts with the meaning, scholars have concluded, of 'evergreen' and the yew occurs in a text that stresses its longevity, asking for a long reign for the king and queen; the yew flourishes in Anatolia and the north Caucasus. Moving away from tight semantic correspondences, we find a set of forms in Baltic meaning variously 'yew' or 'bird cherry'. In the same vein, the Greek forms denoted the 'bird cherry' or 'service tree'. The denotation in Greek and Baltic may have been motivated by shared properties (berries, red heartwood, etc.); in fact, one reputable hypothesis derives all the potential yew words from a PIE *h$_1$ei- 'reddish' which may also underlie Lat *ūva* 'grape'; by yet another hypothesis the entire 'yew' set, irrespective of the color term, is cognate with the 'grape' set in Latin and Armenian but this is speculative. In any case, *h$_1$eiu̯os was a PIE term for the 'yew, (specifically the) English yew', stands of which grew throughout Europe, Anatolia and the Caucasus, and which had diverse ritual uses as well as providing the raw material for bows, as the second term suggests.

The bow, for which yew wood is ideal, was used from pre-PIE, i.e., Mesolithic, times on throughout Eurasia and naturally including the greater IE area. In fact, archery was a favored sport among the Vedic, Old Persian, Hittite and Mycenaean Greek aristocracies as frequently reflected in both texts and their visual arts. The English yew, incidentally, was so ideal for bows that the west European stands had been largely destroyed by the end of the Middle Ages. Above all, the Scythians, preserving an archaic pattern, made archery a quintessential aristocratic (and generally martial) skill, using a word *taxša* (*taxš* in Mediaeval Persian) that is (almost too) transparently cognate with Greek *τόξον* (occurring about twenty-five times in Homer, including the climactic scene in the *Odyssey*). It has often been presumed that the Greek word was borrowed from the Iranian, either during the initial contacts between Greek colonists and Iranian-speaking steppe nomads north of the Black Sea in the seventh century BC or after Scythian archers later served as the Athenian police; however, the word is already present in late Bronze Age Greece, e.g. Myc *to-ko-so-wo-ko* = Grk *τοξο(ϝ)οργός* 'bow maker'. Presumably a Proto-Greek and Proto-Iranian (?) form for 'yew' shifted to 'bow' by the same metonymy by which 'ash' went to 'spear' while a borrowed term *σμῖλαξ* began to be used for the tree. In two other stocks, on the other hand, the reflexes of PIE *taksos retained their original arboreal meaning, notably in the Slavic languages and Latin. In any event, the association of the yew with the bow is so widespread that almost any discovery of a Neolithic or later bow in Europe will be predictably of yew, e.g., most recently the yew bowstave of the Tyrolian "Ice-man".

See also **Berry**; **Bow and Arrow**; **Trees**. [P.F.]

YOKE

***i̯ugóm** 'yoke'. [*IEW* 508–509 (*i̯u-go-m); Wat 79 (*yug-o-); Gl 625 (*yuk'om); Buck 10.78]. OWels *iou* 'yoke', Lat *iugum* 'yoke', ON *ok* 'yoke', OE *geoc* 'yoke' (> NE *yoke*), OHG *joh* 'yoke', Goth *juk* 'pair', Lith *jùngas* 'yoke' (whose form has been influenced by the corresponding verb), Grk *ζυγόν* 'yoke', Arm *luc* (whose initial has been influenced by *lucanem* 'unharness') 'yoke', Hit *yukan* 'yoke; couple, pair', Av *yugəm* 'yoke', NPers *juγ* 'yoke', OInd *yugám* 'yoke'. (Perhaps OIr *cuing* 'yoke' belongs here if it reflects *com-iungo-.) Different formations with identical meaning include *i̯ugtóm 'yoke' in OE *geoht* and OInd *yuktám* and *i̯uges- 'yoke' in OE *gycer*, Goth *jukuzi* (< *yukizi with assimilation of the second vowel to the first), OCS *igo* (pl. *ižesa*) 'yoke', Rus *ígo* 'yoke'. The underlying verb *i̯eug- (pres. *i̯u-né-g-ti) 'joins, harnesses' is seen in Lat *iungō* 'join, harness', OHG *untar-jauhta* 'I subjugated' (compare also ON *eykr* (< *i̯eugis) 'draft-animal'), Lith *jùngti* 'join, harness', Grk *ζεύγνῡμι* 'join, harness', Av *yuj-* 'join, harness', OInd *yunákti* ~ *yañjati* 'joins, harnesses' (and *yojayati* 'joins together'). This word is widespread and obviously ancient in IE, failing to appear only in Albanian and Tocharian. (Though it has been suggested that *i̯ugóm might be independently derived in those stocks where it appears, there being nothing archaic or otherwise special about its morphological form, the fact that it does exist in this exact form so widely, even in languages, such as Hittite, where the underlying verb is not attested, makes the hypothesis of common inheritance by far the better one.)

The yoke was the normal method of harnessing oxen for their use in traction in pulling plows or wheeled vehicles. The yoke was later applied to horse traction until proper horse harnessing appeared (late in the west, earlier in China). The earliest depictions of wheeled vehicles also include representations of yokes, hence we find the graphic representations of yokes at least from the fourth millennium BC onwards, e.g., in the TRB culture, and also evidence for paired draught (paired oxen in burials) which would generally imply yokes although it has also been argued that cattle might also be yoked to vehicles or plows by their horns on the evidence of cord marks on horn cores from the TRB culture as well as ethnographic evidence. Traces of yokes are also known from the wagon burials found in the steppelands north of the Caucasus in the late fourth and third millennia BC. As the 'plow' is reconstructible to PIE a word for 'yoke' might almost have been predicted.

See also **Plow**; **Shaft**; **Tool**; **Wagon**. [D.Q.A., J.P.M.]

YOUNG

***h$_a$i̯eu-** 'young'. [*IEW* 510 (*i̯eu-); Wat 79 (*yeu-); Buck 14.14;]. OIr *ōa* 'younger', MWels *ieu* 'younger', OE *geong* 'young' (> NE *young*), Goth *juggs* 'young', Lat *iuvenis* 'young', Lith *jáunas* 'young', Latv *jaûns* 'young', OCS *junŭ* 'young', Av *yvan-* 'youth', OInd *yúvan-* 'young'. The various IE languages reflect some form of this root: Germanic employs a suffixed form *h$_a$i̯eu-n̥k-; Latin, Baltic, Slavic and Indo-Iranian reflect an extended zero-grade of *h$_a$i̯uu̯en-. From *h$_a$ói̯us 'strength, vitality'. The root is definitely of PIE status.

***h$_a$i̯uh$_x$-n̥-ḱós** 'youth'. [*IEW* 510 (*i̯uu̯n̥ḱó-s); Wat 79

(*yeu-); Buck 14.14]. OIr *ōac* (*DIL ōc*) 'youth', Wels *ieuanc* ~ *ifanc* 'youth', Lat *iuvencus* 'young (cow)', ON *ungr* 'young', OE *geong* 'young' (> NE *young*), OHG *jung* 'young', Goth *juggs* 'young', OInd *yuvaśá-* 'young'. From *$h_a$óius 'strength, vitality', i.e. 'one possessed of vitality'. Widespread and old in IE.

***maghus** 'young man', ***maghuih$_a$-** 'young woman'. [*IEW* 696 (*maghu-); Wat 38 (*maghu-); BK 545 (*mag-)]. OIr *mug* 'male slave or servant', Corn *maw* 'youth; servant', *mowes* 'young woman', Bret *mao* 'youth; servant', OE *mago* 'son; man; servant', *mæg(e)þ* 'maiden, virgin; girl; wife', NE *maid(en)*, OHG *magad* 'young woman', Goth *magus* 'youth', *mawi* 'young woman', *magaþs* 'young woman', Av *maγava-* 'unmarried'. As if from *magguos is OWels *map* 'son'; as if from *mak^wos is OIr *mac(c)*. All possibly from *magh- 'be able' (cf. *uih_xrós 'man' from *$ueih_x$- 'strength, vitality'). A word mostly of the far west of the IE world with an outlier in Iranian.

***mérios** 'young man', ***merih$_a$-** 'young woman'. [*IEW* 738–739 (*merio-); Wat 38 (*mari-); BK 522 (*mar-/*mər-)]. Latin *marītus* 'husband; lover, suitor' (< *$merih_a$-to- 'one possessed of a young woman'), Alb *shemër* 'co-wife, concubine; (female) rival' (< older *shemërë*), Grk *μεῖραξ* 'young man or woman', Av *mairya-* 'young man', OInd *márya-* 'young man, lover, suitor'. Somewhat more distantly related is Lith *mergà* 'girl'.

?*koruos 'youth'. [*IEW* 577 (*k̑er-); Wat 30 (*kor-wo-); Buck 2.25; Szem 3.1]. Myc *ko-wo* 'boy', Grk *κόρ(ϝ)ος* 'boy, son', Kurdish *kur* 'son'. At best a late word of the IE southeast. It is not certain that the Kurdish word belongs here and, if not, then the Greek word is best reconstructed as *k̑óruos and taken as a derivative of *k̑er- 'grow'. The Kurdish word has also been plausibly taken as related to NPers *kurre* 'foal, colt', Oss *kur* 'steer, young ox' and, outside Iranian, to Macedonian *κύρνος* 'bastard', and Hit *kūrka-* 'foal'.

Young men were designated in a number of ways, depending upon their functions and the attitudes they evoked, but the commonest term referring principally to their youthfulness was *$h_a$iuh$_x$-n̥-k̑ós based on a widespread root for 'young'. Young women were often referred to by *m(e)rih$_a$, a term which is reflected not only in terms for young women and wives in Greek and Albanian but by terms for bachelors or newly wed males in Latin and Indo-Iranian.

See also Age Set; Warriors. [M.E.H., P.B.]

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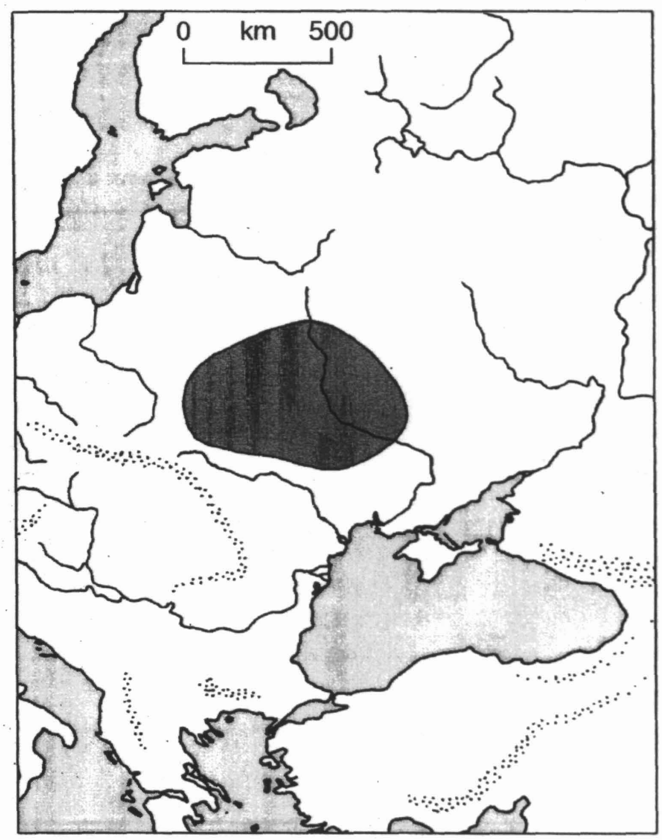
ZARUBINTSY CULTURE

Zarubintsy is the easterly variant of the Przeworsk-Zarubintsy complex of cultures that occupied the northern Dnieper region from the third or second century BC to the second century AD. The culture is known from about five-hundred settlements and cemeteries. The settlements include both open sites and hilltop villages defended by banks and ditches, the later indicating attacks from (Iranian-speaking) Sarmatian tribes. These settlements, consisting of ten to fifteen small houses that measured about 12 to 16 m^2, have been interpreted as the residences of single tribes. The economy was based on mixed agriculture. Among the plants raised were millet, wheat, barley, rye, pea, lentil, bean, hemp and flax. An unusually high percentage of wild faunal remains may suggest deliberate hunting for skins to supply the Black Sea trading towns. Burial was by cremation in an urn or pit. The territory, both in terms of geographical position and the evidence of early Slavic river names, is probably to be associated with the (Proto-?) Slavic language although there are scholars to argue both a Germanic or Baltic identity.

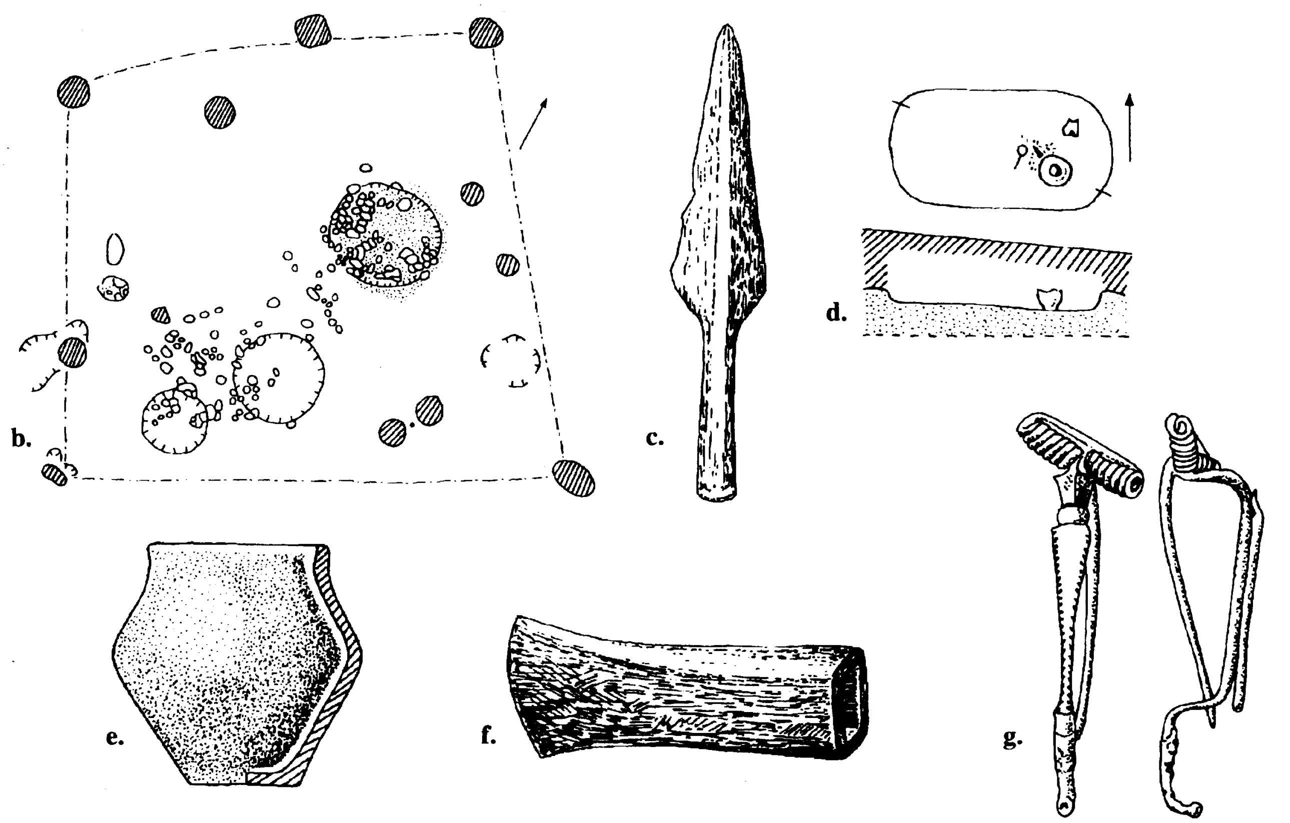
See also Przeworsk Culture; Slavic Languages. [J.P.M.]

Further Reading

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Zarubintsy a. Distribution of the Zarubintsy culture.



Zarubintsy b. House plan from Chaplin; c. Iron spear; d. Burial pit; e. Hand-made pot; f. Iron ax; g Fibula.

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Indo-European Languages

Non-Indo-European Languages

Proto-Indo-European

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Albanian [Alb]

Alphabetic order: a, b, c, ç, d, dh, e, ë, f, g, gj, h, i, j, k, l, ll, m, n, nj, o, p, q, r, rr, s, sh, t, th, u, v, x, xh, y, z, zh

Anatolian

Hittite [Hit]

Alphabetic order: a, d, e, g, h, i, k, l, m, n, p, r, s, t, u, w, y, z

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PALAIC [Palaic]

LUVIAN [Luv]

HIEROGLYPHIC LUVIAN [HierLuv]

LYCIAN [Lycian]

Armenian

Alphabetic order: a, b, c, c‘, č, č‘, d, e, ə, g, h, i, j, ǰ, k, k‘, l, ł, m, n, o, p, p‘, r, ṙ, s, š, t, t‘, u, v, w, x, y, z, ž

Baltic

Lithuanian [Lith]

Alphabetic order: a (ą), b, c, č, d, e (ę, ė), f, g, h, i (į, y), j, k, l, m, n, o, p, r, s, š, t, u, ų, ū, v, z, ž

Latvian

Alphabetic order: a, b, c, č, d, e, g, i, j, k, ķ, l, ļ, m, n, ņ, o, p, r, ŗ, s, š, t, u, v, z, ž

Celtic

CONTINENTAL CELTIC
(*Galatian, Gallo-Roman, Gaulish, Ibero-Celtic, Ligurian*)

BRITISH

Old British

Old Welsh [OWels]

Middle Welsh [MWels]

OLD BRETON [OBret]

MIDDLE BRETON [MBret]

NEW BRETON [Bret]

OLD CORNISH [OCorn]

MIDDLE CORNISH [MCorn]

NEW CORNISH [Corn]

IRISH

OGHAM IRISH [OghamIr]

OLD IRISH [OIr]

Middle Irish

New Irish

Scots Gaelic

Germanic

EARLY GERMANIC

Early Germanic

Runic

EAST GERMANIC

Gothic [Goth]

Alphabetic order: a, b, d, e, f, g, h, ƕ, i, j, k, l, m, n, o, p, q, r, s, t, þ, u, w

Crimean Gothic

WEST GERMANIC

Old High German [OHG]

Middle High German
[MHG]

Old English [OE]

Alphabetic order: a, æ, b, c, d, e, f, g, h, i, j, l, m, n, o, p, r, s, t, þ, ð, u, w, x, y

Middle English [ME]

New English [NE]

NORTH GERMANIC

Old Norse [ON]

Alphabetic order: a, ā, b, d, ð, e, ē, f, g, h, i, ī, j, k, l, m, n, o, ō, p, q, r, s, t, u, ū, v, x, y, ȳ, þ, æ, ǫ, ø, œ

Greek

Indo-Aryan

OLDER INDIC

MITANNIC [Mitanni]

OLD INDIC [OInd]

Alphabetic order: a, ā, b, bh, c, ch, d, e, g, gh, h, i, ī, j, jh, k, kh, l, m, n, o, p, r, ṛ, s, ṣ, ś, t, th, u, ū, v, y

MIDDLE INDIC [MInd]

PRAKRIT [Prak]

BUDDHIST HYBRID SANSKRIT

Iranian

EASTERN IRANIAN

AVESTAN [Av]

Alphabetic order: a (ą), ā (å), b, β, č, d, δ, e, ə, f, g, γ, h, i (ī), ǰ, k, m, n, o, p, r, s, š, t, θ, u (ū), v, x, x^v, y, z, ž

WESTERN IRANIAN

Italic

Slavic

SOUTH SLAVIC

Old Church Slavonic [OCS]

Alphabetic order: a, b, c, ch, č, d, e, ě, ę, g, i (ĭ), j, k, l, m, n, o, ǫ, p, r, s, š, t, u (ŭ), v, z, ž

EAST SLAVIC

New Russian [Rus]

Alphabetic order: a, b, c, č, d, e (ë), g, i, j, k, kh, l, m, n, o, p, r, s, š, t, u, v, z, ž

Tocharian

Alphabetic order: a, ā, ä, c, e, i (ī), k, l, ly, m (ṃ), n (ṅ), ñ, o, p, r, s, ṣ, ś, t, ts, u (ū), w, y

Other Indo-European Languages

Non-Indo-European Languages

GENERAL INDEX

Numbers in **bold** indicate subjects with their own entries.

Alphabetical order: a, b, c, č, d, ð, e, ə, f, g, h, i, j, k, l, m, n, o, p, q, r, s, ś, š, ṣ, t, θ, þ, u, v, w, x, y, z, ž; no distinction is made between vowels with or without diacritics.

FIGURE ACKNOWLEDGMENTS

All figures have been redrawn from the sources listed below, i.e., it should be understood that all figures are "after" the sources cited.

Abbreviations:

BAC =Gimbutas, M. (1965) *Bronze Age Cultures in Central and Eastern Europe*. The Hague, Mouton.
CG = Gimbutas, M. (1991) *Civilization of the Goddess*. San Francisco, Harpers.
HV = Müller-Karpe, Hermann (1966-) *Handbuch der Vorgeschichte*. Munich, Beck.
JIES = *Journal of Indo-European Studies*

Abashevo: b. *BAC*, fig. 420, p. 599; c. Gorbunov, V. S. (1989) *Poselencheskiye Pamyatniki Bronzogo Veka v Lesostepnom Priurale*. Kuybyshev, Kuybyshev State Pedagogical Institute, tab. 10, p. 134; d. Gorbunov, V. S. (1986) *Abashevskaya Kul'tura Yuzhnogo Priuralya*. Ufa, Bashkir State Pedogogical Institute, tab. 17, p. 92; e. *BAC* fig. 426, p. 604.

Afanasevo: b.-g. Vadetskaya, E. (1986) *Arkheologicheskiye Pamyatniki v Stepyakh Srednego Yeniseya*. Leningrad, Nauka, tab. II, p. 20–21.

Andronovo: b. Kuzmina, Ye. (1994) *Otkuda Prishli Indoarii?* Moscow, fig. 7, p. 403; c. *ibid.*, fig. 9, p. 405; d. *ibid.*, fig. 19, p. 415; e.-f. Avdusin, D. A. (1977) *Arkheologiya SSSR*. Moscow, Vysshaya Shkola, fig. 41, p. 112; g. Gening, V. F., G. Zdanovich and V. V. Gening (1992) *Sintashta*. Chelyabinsk, Yuzno-Ural'skoye knizhnoye izdatel'stvo, fig. 126, p. 231; h. Kuzmina, *op. cit.*, fig. 57, p. 457; i. Potemkina, T. M. (1985) *Bronzovyy Vek Lesostepnogo Pritobol'ya*. Moscow, Nauka, fig. 69, p. 172.

Ax: a. *HV* II, tab. 272; b. *ibid.*, tab. 218; c. *CG*, fig. 6–13, p. 198; d. *ibid.*, fig. 7–67, p. 268; e.-f. *BAC*, fig. 13, p. 43; g. *ibid.*, fig. 158, p. 229.

Axle: a. Häusler, A. (1994) Archäologische Zeugnisse für Pferd und Wagen in Ost- und Mitteleuropa, *Die Indogermanen und das Pferd*. Budapest, fig. 2, p. 219; b. *ibid.*, fig. 3, p. 220; c. *ibid.*, fig. 4, p. 221.

Baalberge: b. Gimbutas, M. (1956) *The Prehistory of Eastern Europe*. Cambridge, Mass., Peabody Museum, fig. 87, p. 149.

Baden: b. Schmidt, R. R. (1945) *Die Burg Vučedol*. Zagreb, Ausgabe des Kroatischen Archäologischen Staatsmuseums in Zagreb, fig. 8, p. 19; c.–d. *HV*, III/3, tab. 477; e. *ibid.*, tab. 476; f. Gimbutas, M. (1973) *JIES* 1, fig. 20, p. 188.

Beaker: b: Piggott, S. (1965) *Prehistoric Europe*. Chicago, Aldine, fig. 53, p. 99; c. Harrison, R. (1980) *The Beaker Folk*. London, Thames and Hudson, fig. 98, p. 141; d., f. Piggott, *op. cit.*, fig. 53, p. 99; e. Harrison, *op. cit.*, fig. 35; g. *ibid.*, fig. 33, p. 48.

Bishkent: b.-c. Mandelshtam, A. M. (1968) *Pamyatniki Epokhi Bronzi v Yuzhnom Tadzhikistane*. Moscow, Nauka, figs. 10, 16, pp. 21, 27.

BMAC: b. Lamberg-Karlovsky, C. (1994) *Antiquity* 68, fig. 1, p. 399; c. Sarianidi, V. (1994) *Antiquity* 68, fig. 6, p. 415; d. Parpola, A. *Studia Orientalia* 64, fig. 10, p. 285.

Bodrogkeresztúr: b. *CG*, fig. 3–81, p. 117; c. Hillebrand, J. (1929) *Das Frühkupferzeitliche Gräberfeld von Pusztaistvánháza*. Budapest, Frankin-Társulat Nyomdája, fig. 4, p. 17.

Bow: a. Rausing, G. (1967) *The Bow: Some Notes on its Origin and Development*. Bonn, Rudolf Habelt, fig. 49; b. *ibid.*, fig. 47; c. *ibid.*, fig.50; d. *ibid.*, fig. 54.

Bug-Dniester: b.-d. *Arkhelogiya Ukrainskoy SSR I*, fig. 31, p. 123.

Catacomb I: b. Rolle, R. *et al.* (1991) *Gold der Steppe: Archäologie der Ukraine*. Schleswig, Archäologisches Landesmuseum, fig. 4, p. 46; c: Häusler, A. (1974) *Die Gräber der älteren Ockergrabkultur zwischen Ural und Dnepr*. Berlin, Akademie-Verlag, taf. 48, p. 263; d. Shepel, E. A. (1996) *JIES* 24, fig. 3, p. 10; e: *Arkhelogiya Ukrainskoy SSR I*, (1985). Kiev, Naukova Dumka, fig. 110, p. 412.

Catacomb II: a. Häusler, *op. cit.* tab. 32, p. 247; b. Pustavalov, S. (1993) *Arkheolohiya*, 1, 24–33; figs. 4–5, pp. 28–29; c. *Arkhelogiya Ukrainskoy SSR I*, fig. 111, p. 414; d. *ibid.*, fig. 112, p. 416; e. *ibid.*, fig. 108, p. 408.

Çatal Hüyük: b. Mellaart (1967) *Çatal Hüyük*. New York, McGraw-Hill, fig. 100, p. 202; c. *ibid.*, fig. 106, p. 212; d. *ibid.*, fig. 159, p. 326; e. *ibid.*, fig. 169, p. 333.

Cemetery H: b. Vats, M. S. (1940) *Excavations at Harappā*. 2 vols. Delhi, Government of India, pl. 62.

Cernoles: b. *Arkhelogiya Ukrainskoy SSR II*, fig.6, p. 33.

Chernyakovo: b. *Arkhelogiya Ukrainskoy SSR III*, fig.17, p. 99; c. Symonovich, E. and N. Kravchenko (1983) *Pogrebal'nye Obryady Plemen Chernyakhovskoy Kul'tury*. Moscow, Nauka, tab. 18, p. 144; d. Smilenko, A. T. (1975) *Slov'yany ta ikh Susidy v Stepovumu Podniprov'ï (ii-xiii st.)*. Kiev, Naukova Dumka, fig. 11, p. 42.

Club: a. Coles, B. and J. (1989) *People of the Wetlands*. London, Thames and Hudson, fig. 25, p. 38; b. *Baltic-Pontic Studies* 2, fig. 1, p. 169; c. *ibid.*, fig. 2, p. 170; d. drawn from photograph provided by excavator, P. Kuzentsov; e. Yule, P. (1985) *Metalwork of the Bronze Age in India*. Munich, Beck, pl. 10; f. *ibid.*, pl. 43.

Comparative Mythology: Sayers, W. (1993) *Mankind Quarterly* 34, p. 31.

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Corded Ware: b.-e. Buchvaldek, M. and D. Koutecky (1970) *Vikletice, ein schnurkeramisches Graberfeld*. Acta Institut Praehistorici Universitatis Caroli Pragensis, Praehistorica, 3, fig. 44, p. 105.

Cosmology: Piantelli, M. (1983) *Bollettino del Centro Camuno di Studi Preistorici* 20, fig. 5, p. 35.

Coţofeni: b. Roman, P. (1977) *The Late Copper Age Coţofeni Culture of South-East Europe*. Oxford, British Archaeological Reports, pl. 4; c. *ibid.*, pl. 17; d. *ibid.*, pl. 89; e. *ibid.*, pl. 9; f. *ibid.*, pl. 8.

Dereivka: a. Telegin, D. Ya. (1986) *Dereivka*. BAR International Ser. 287, Oxford, fig. 5, p. 7; b. *ibid.*, fig. 51, p. 83; c. *ibid.*, fig. 24, p. 33; d. *ibid.*, fig. 16, p. 22.

Djeitun: b. Kohl, P. (1984), *Central Asia: Palaeolithic Beginnings to the Iron Age*. Paris, fig. 1; c. *ibid.*, fig. 2, p. 51.

Dnieper-Donets: b. Telegin, D. Ya. and I. D. Potekhina (1987) *Neolithic Cemeteries and Populations in the Dnieper Basin*. BAR International Ser. 383, Oxford, fig. 3, p. 7.

Este: b. Duhn, F. von, (1923), *Italische Gräberkunde* II. Heidelberg, tab. 9; c. Frey, H. (1962) *Die Situla in Providence*, Römisch-Germanische Forschungen 26, taf. 65.

Ezero: b. Georgiev, G. *et al.* (1979) *Ezero: Rannobronzovoto Selishte*. Sofia, fig. 53, p. 86; c. *ibid.*, fig. 109, p. 175; d. *ibid.*, fig. 174, p. 370; e. *ibid.*, fig. 175, p. 371.

Fatyanovo-Balanovo: b. Avdusin, D. A. (1977) *Arkheologiya SSSR*. Moscow, Vysshaya Shkola, fig. 43, p. 116; c. Gadzyatskaya, O. S. (1976) *Pamyatniki Fat'yanovskoy Kul'tury*. Moscow, Nauka, tab. 2, p. 101; d.-e. *ibid.*, fig. 44, p. 118.

Gaudo: b.-c. *HV* III/3, tab. 436; d. *ibid.*, tab. 435.

Glasinac : b. Benac, A. (1957) *Glasinac*. Sarajevo.

Globular Amphora: b. Wislanski, T. (1970), *The Neolithic in Poland*. Wroclaw, Nauk, fig 67, p. 199; c. *Arkhelogiya Ukrainskoy SSR I*, fig. 75, p. 288; d. Sulimirsky, T. (1970) *Prehistoric Russia*. London, p. 163; e. *CG*, fig. 10–31, p. 384; f. *CG*, fig. 10–26, p. 380.

Golasecca: Kruta, V. *et al.* (eds.) (1991) *The Celts*. London, Thames and Hudson, p. 94.

Hallstatt: b. Collis, J. (1984) *The European Iron Age*. London, Batsford, fig. 21, p. 86; c. Kruta, V. *et al.*, *The Celts*. London, Thames and Hudson, p. 84.

Harappan: b. *HV* III/3, tab. 718; c. Allchin, B. and R. (1982) *The Rise of Civilization in India and Pakistan*. Cambridge, University Press, fig. 7–3, p. 174; d. Parpola, A. (1994) *Deciphering the Indus Valley Script*. Cambridge, University Press; e. Fairservis, W. A. (1971) *The Roots of Ancient India*. New York, Macmillan, pl. 30, p. 255.

Hasanlu: Dyson, R. (1960) *Archaeology* 13, 2, 124–125.

Headband: a. *HV* III/3, tab. 479; b. Vasiliyev, I. (1995) *Drevniye Indoiranskiye Kul'tury Volgo-Ural'ya*. Samara, fig. 13, p. 109.

Horse: a. Uerpmann, H.-P. (1995) *Le cheval et let autres équidés: aspects de l'histoire de leur insertion dans les activités humaines*. Liege, fig. 1, p. 22; b. Telegin, D. Ya. (1986) *Dereivka*. BAR International Ser. 287, Oxford, fig. 51, p. 138.

Jastorf: b. Kruger, B. *Die Germanen*, vol. 1. Berlin, fig. 24; c, e. Schwantes, G. (1950) Die Jastorf-Zivilization, in *Reinicke Festschrift* (eds. G. Behrens and J. Werner). Mains, Schneider, fig. 1–10, p. 120; d. Kruger, *op. cit.*, fig. 27, p. 138.

Karasuk: b. Vadestskaya, E. (1986) *Arkheologicheskiye Pamyatniki v Stepyakh Srednego Yeniseya*. Leningrad, Nauka, pl. 6, p. 54; c. *ibid.*, tab. 5, p. 56; d. Avdushin, D. (1977) *Arkheologiya SSSR*. Moscow, Vysshaya Shkola, fig. 48, p. 123.

Kelteminar: b. Gupta, S. P. (1979) *Archaeology of Soviet Central Asia, and the Indian Borderlands*, II. Delhi, B. R. Publishing Co., fig. 6, p. 19.

Kemi Oba: b. *Arkhelogiya Ukrainskoy SSR I*, fig. 89, p. 333; c.-d. *ibid.*, fig. 87, p. 326.

Khvalynsk: b. Agapov, S. A. *et al.* (1990) *Khvalynskiy Eneoliticheskiy Mogil'nik*. Saratov, fig. 5, p. 101; c., i. *ibid.*, fig. 8, p. 24; d.- e. *ibid.*, fig. 31, p. 127; f. *ibid.*, fig. 32, p. 128; g.-h. *ibid.*, fig. 24, p. 120.

Kolochin: b. *Arkheologiya Ukrainskoy SSR* III, fig. 40, p. 172; c. *ibid.*, fig. 38, p. 168.

Komarov: b. *Arkhelogiya Ukrainskoy SSR I*, fig.115, p. 430; c. *ibid.*, fig. 116, p. 432; d.-e. *ibid.*, fig. 115, p. 434.

Kuro-Araxes: b. Kushnareva, K. and V. Markovin (1994) *Epokha Bronzy Kavkaza i Sredney Azii*. Moscow, Nauka, tab. 4, p. 22; c.-e. *ibid.*, tab. 12, p. 40.

La Tène: b. Piggott, S. (1965) *Ancient Europe*. Chicago, Aldine, fig. 119, p. 217; c. Kruta, V. *et al.* (1991) *The Celts*. London, Thames and Hudson, p. 131; d. Raftery, B. (1994) *Pagan Celtic Ireland*. London, Thames and Hudson, fig. 103, p. 164; e. Szabo, M. and E. Petres (1992) *Decorated Weapons of the La Tène Iron Age in the Carpathian Basin*. Budapest, Magyar Nemzeti Múzeum, pl. 99, p. 217.

Lengyel: b. *CG*, fig. 3–35, p. 82; c. *ibid.*, fig. 3–33A, p. 79; d. *ibid.*, fig. 3–36, p. 83.

Linear Ware: b. *HV* II, tab. 211; c. *ibid.*, tab. 217; d. Tringham, R. (1971) *Hunters, Fishers and Farmers of Eastern Europe 6000 - 3000 BC*. London, Hutchinson, fig. 20, p. 120; e. *Arkheologiya Ukrainskoy SSR* I, fig. 33, p. 129.

Lower Mikhaylovka: b.-c. *Arkhelogiya Ukrainskoy SSR I*, fig. 87, p. 326.

Marlik: a.-c. Kurochkin, G.N. (1994) Near Eastern Aryans and the royal cemetery of Marlik, in *South Asian Archaeology* 1993 I, fig. 34.1, p. 390; d.-e. *ibid.*, fig. 34.2, p. 391; f.-g. *ibid.*, fig. 34.5, p. 394.

Maykop: b.-c. *HV*, III/3, tab. 686; d.-f. *ibid.*, tab. 687; g. Kushnareva, K. and V. Markovin (1994) *Epokha Bronzy Kavkaza i Sredney Azii*. Moscow, Nauka, tab. 57, p. 211; h. *ibid.*, tab. 47, p. 192; i. Rezepkin, A. D. (1992) *JIES* 20, fig. 6, p. 68; j. Kushnareva and Markovin, *op. cit.*, tab. 53, p. 204; k. Rezepkin, *op. cit.*, figs. 1–2, p. 60–61.

Messapic Language: b.-c. Randall-MacIver (1927) *The Iron Age in Italy*. Oxford, Clarendon, pl. 47.

Middle Dnieper: b.-f. *Arkhelogiya Ukrainskoy SSR I*, fig. 99, p. 366.

Milk: a. Bogucki, P. (1986) *Expedition*, fig. 3, p. 54; b. Zbenovitch, V. G. (1974) *Pozdnetripol'skiye Plemena Severnogo Prichernomor'ya*. Kiev, Naukovo Dumka, fig. 33, p. 86; c. Barker, G. (1981) *Landscape and Society: Prehistoric Central Italy*. London, Academic Press, fig. 27, p. 93.

Novodanilovka Group: b.-c. *Arkhelogiya Ukrainskoy SSR I*, fig. 83; p. 312; d.-g. *ibid.*, fig. 84, p. 314.

Novotitorovka: b. Gey, A. N. (1991) *Sovetskaya Arkheologiya* 1991, 1, fig. 3, p. 60; c. *ibid.*, fig. 6, p. 64.

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Physical Anthropology: I. Coon, C. (1939) *The Races of Europe*. New York, Macmillan, map 8, p. 270–271; II. Cavalli-Sforza, L. L., P. Menozzi and A. Piazza (1994) *The History and Geography of Human Genes*. Princeton, Princeton University Press, figs. 5.11.1–3, p. 292–293.

Picene: b. Randall-MacIver (1927) *The Iron Age in Italy*. Oxford, Clarendon, pl. 24; c. *ibid.*, fig. 24, p. 106.

Pit-Comb: b. Gimbutas, M. (1956) *The Prehistory of Eastern Europe*. Cambridge, Peabody Museum, fig. 109, p. 185; c.-d. *Arkheologiya Ukrainskoy SSR* I, fig. 49, p. 180; e. *ibid.*, fig. 50, p. 182; f. Gimbutas, *op. cit.*, fig. 121, p. 291.

Plow: a. *CG*, fig. 6–9, p. 196; b.-c. Sherratt, A. (1981) Plough and pastoralism, in *Patterns of the Past: Studies in Honour of David Clarke* (eds. N. Hammond *et al.*). Cambridge, fig. 10.6, p. 268; d. Bidzilya, V. I. and E. Yakovenko (1973), *Sovetskaya Arkheologiya* 1973, 3, fig. 1, p. 149; e. *CG*, fig. 10–43, p. 397; f. *HV*, II, tab. 189.

Poltavka: b.-d. Häusler, A. (1974) *Die Gräber der älteren Ockergrabkulture zwischen Ural und Dnepr*. Berlin, Akademie-Verlag, tab. 8-9.

Poppy: Zohary, D. and M. Hopf (1988) *Domestication of Plants in the Old World*. Oxford, Clarendon, map. 16, p. 124.

Pot: a.-b. *HV* II, tab. 116; c. *CG*, fig. 3–75, p. 113; d. *HV*, III/3 , tab. 477; e. *Arkheologiya Ukrainskoy SSR I*, fig. 35, p. 136; f., h. *HV* III/3, tab. 506; g. Kushnareva, K. and V. Markovin (1994) *Epokha Bronzy Kavkaza i Sredney Azii*. Moscow, Nauka, tab. 56, p. 210; i.-j. *HV* II, tab. 128.

Potapovka: b. Vasil'ev, I. B., P. F. Kuzentsov and A. P. Semenova (1995) Pamyatniki Potapovskogo Tipa v lesostepnom Povolzh'e, in *Drevniye Indoiranskiye Kul'tury Volgo-Ural'ya*. Samara, fig., 4, p. 17; c.-d. *ibid.*, fig. 18, p. 35; e., h. *ibid.*, fig. 13, p. 30; f. *ibid.*, fig. 7, p. 20; g. *ibid.*, fig. 17, p. 34.

Prague: b. *Arkheologiya Ukrainskoy SSR* III, fig. 29, p. 140; c. *ibid.*, fig. 30, p. 144.

Przeworsk: b. *Arkheologiya Ukrainskoy SSR* III, fig. 9, p. 58.

Razor: a. *Arkheologiya Ukrainskoy SSR* I, fig. 95, p. 342; b. Müller-Karpe, H. (1959) *Beiträge zur Chronologie der Urnenfelderzeit*. Berlin, de Gruyter, fig. 50, p. 214.

Remedello: b. *HV* III/3, tab. 439; c.-e. *ibid.*, tab. 440.

Rinaldone: b. Mallory, J. (1989) *In Search of the Indo-Europeans*. London, Thames and Hudson, fig. 66, p. 94; c.-f. *HV* III/3, tab. 437.

Rössen: b. *HV* II, tab. 236; c. Lüning, J., *Offa* 39, fig. 14, p. 30; d. *ibid.*, fig. 11, p. 26.

Sacred Drink: a.-b. Sarianidi, V. (1994) *Antiquity* 68, fig. 4, p. 393, fig. 6, p. 396.

Samara: b. Vasilyev, I., *Sovetskaya Arkheologiya* 1979, 4, fig. 3, p. 152; c.-f. *ibid.*, fig. 5, p. 154.

Shoe: Coles, B. and J. (1989) *People of the Wetlands*. London, Thames and Hudson, fig. 77, p. 112.

Sickle: a. *CG*, fig. 2.31C, p. 39; b. Kushnareva, K. and T. Chubinshvili (1970) *Drevniye Kul'tury Yuzhnogo Kavkaza*. Leningrad, Nauka, fig. 42, p. 118; c. *CG.*, fig. 7–45, p. 250; d. Avdusin, D. A. (1977) *Arkheologiya SSSR*. Moscow, Vysshaya Shkola, fig. 86, p. 202.

Sintashta: b. Gening, V. F., G. Zdanovich and V. V. Gening (1992) *Sintashta*. Chelyabinsk, Yuzno-Ural'skoye knizhnoye izdatel'stvo, fig. 7, p. 22; c. *ibid.* fig. 21, p. 85; d. *ibid.* fig. 12, p. 39; e. *ibid.*, fig. 72, p. 154.

Spear: a. Vasil'ev, I. B., P. F. Kuzentsov and A. P. Semenova (1995) Pamyatniki Potapovskogo Tipa v lesostepnom Povolzh'e, in *Drevniye Indoiranskiye Kul'tury Volgo-Ural'ya*. Samara, fig., 18, p. 35; b. Kushnareva, K. and V. Markovin (1994) *Epokha Bronzy Kavkaza i Sredney Azii*. Moscow, Nauka, tab.46, p. 190; c. Klochko, V. (1994) The weaponry of the pastoral societies in the context of the weaponry of the steppe-forest-steppe communities: 5000–

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